

THE *Soybean Digest*



The Champions Incubate (see page 11).

Official Publication
AMERICAN SOYBEAN ASSOCIATION

VOLUME 11 • NUMBER 4

APRIL • 1951

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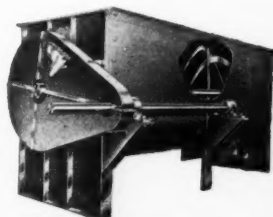
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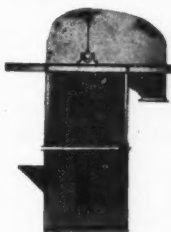
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EDITOR'S DESK

NO YEAR TO SELL SOYBEANS SHORT

Never before in history have soybean bushels disappeared so fast as they have in the period since Oct. 1. Combined totals on soybeans processed plus those exported are greater than any similar period in history. While soybean oil meal prices have weakened at times during the past few weeks, there has been a steady market for the largest production ever turned out of our processing plants.

Present indications point toward complete disappearance of the 1950 crop before the 1951 harvest begins. Again we will find ourselves with no carry-over, no sizable cushion carried from one year into the next. With reduced acreage in 1951, as we most surely are going to have unless weather conditions prevent seeding of small grains and planting of corn at normal dates, we might conceivably turn up with reduced yields and shortages of soybeans in 1951-52 processing operations.

With the very best of growing conditions we will end up with 30 to 50 million bushels less than during the past year. Yet livestock populations are increasing, corn supplies are being used up much more rapidly than they will be replaced this year, protein feeds will be more important than ever before.

Clyde Hendrix challenged the soybean industry to march "Forward to a Half Billion" bushels at the 1950 convention. This year we will backslide. It is our suggestion to the man who is deciding between the crops he is to plant in 1951 that "Soybeans are Worth More Money", that basically they contain the two most scarce of the basic food commodities in greater quantity than any other crop, and that over a period of time those values will be recognized.

Don't sell soybeans short in 1951!!

POLITICALLY, WE MUST MATURE

Relatively young as compared with most of the other oilseed industries, the soybean industry must begin to find itself—to grow up and begin planning and acting as a mature mind. We must learn to protect our interests as other industries protect theirs—to fight our own battles on an intelligent basis.

When cotton is placed under controls, or legislation is under consideration affecting it, the cotton industry has its key men in the spots in government where they count. Cotton men administer cotton legislation. But do soybean men administer programs affecting soybeans? No—we wait for someone else to do it.

Whether we agree with the procedure or not, we must recognize that government today and tomorrow is to have far more to do with our industry than ever before in the past. Recognizing that, we must groom some of our best men from the industry to assume responsibilities in government when our industry is at stake.

Soybeans supply more edible oil than any other American crop. But who administers fats and oils ceilings? A retail products man? Why? Because his com-

pany volunteered his services. Did any person or company in the soybean industry volunteer key personnel for such assignments? We were too busy to consider it. So, we get the type of ceiling and administration of it that a non-industry man prescribes. Who is to blame? Certainly it can be no one other than our own industry leaders.

Do we have a soybean man in the grain branch of PMA, where all federal programs affecting the soybean crop originate? We have wheat men, corn men, but not a man there knows the soybean industry. Where does the fault lie, then, if we get programs we do not like? Right in our own laps!

We must, as an industry, grow up. We must start training men for our own individual companies, but even more important, we must start training men to occupy key spots in government where those spots affect our industry.

Cotton gets representation because it provides it. Peanuts are very adequately represented because the industry provides leadership for itself and anything which affects it. The soybean industry must begin to provide leadership for things outside as well as inside the doors of the offices which process and trade the crop.

To do that job the soybean industry needs an overall council or organization, representing the growers, buyers, traders, processors and utilizers of the soybean crop. Until such an organization comes into being other commodity groups so organized are going to continue to outsell, outsmart and out-manuever us. Now the leading producer of both edible oils and protein, it is time for the soybean industry to grow up.

HIGH YIELDS MAKE THE PROFITS

If we cannot have increased soybean acreage, at least we can have maximum yields in 1951. We can farm better, produce more bushels per acre, reduce the per-bushel production cost, and make more profits. That, in the end, is what each of us as growers is most interested in.

Good seed—the very best seed obtainable—is cheap at any price. Free of disease, sound, mature, high germinating, free of splits and foreign material, good seed is the basis of successful production.

A good seedbed is important. Kill the weeds before planting. It is much easier and cheaper than trying to kill them after the soybeans are in the ground. Plant in rows as shallow as possible, still covering the seed.

Use inoculation on every bushel of seed planted, regardless of the past history of the field. It is the cheapest crop insurance you can buy, will pay huge dividends. If you are forced to use seed carrying disease, purple stain, injured seed coats or inherently low in germination, use seed disinfectants of the organic types to assure stands. In those cases apply the seed treatment first, then apply inoculation immediately before planting.

Proper seed, seedbed preparation, inoculation, planting and weed control may well mean the difference between mediocre yields and high yields. No farmer ever made money from mediocre yields—it is always the high yielding field which pays dividends.

1951—the year of greatest food demands in history—is the year to raise your soybean yield far enough above the average that it will pay dividends to you. America will need the soybeans next fall.

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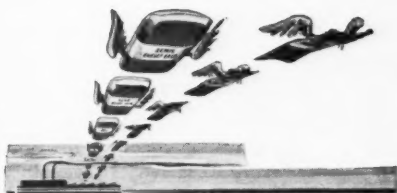


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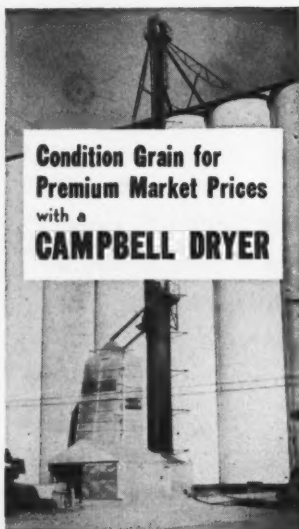
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ACTIVITIES OF YOUR ASSOCIATION

Sees No Change in Price Ceilings

Consumer pressures for holding the line on prices make it seem improbable there will be any price increases allowed on soybean oil in the foreseeable future, according to the conclusions reached by ASA President John W. Evans, Montevideo, Minn.; Director Ersel Walley, Fort Wayne, Ind.; and Secretary-treasurer Geo. M. Strayer, Hudson, Iowa, after four days spent in Washington, D. C. early in March.

"Recognizing that an unusual price spread has been established between soybeans and cottonseed oil, price officials in charge of fats and oils insist that they were purposely arranged that way to discourage cottonseed oil usage and encourage soybean oil consumption," said Strayer

on his return from Washington. "Definite assurance has been given that as new crop cottonseed oil reaches the market there will be adjustments. It is also their hope that both oils will be selling below ceilings, where they will find their own comparative levels.

"We are now in the midst of preparation of a brief for presentation to price control officials reviewing the current situation, and setting forth our ideas of what will happen at different levels of price relationships between soybeans and corn. This will be filed with them very shortly, will also be placed in the hands of all Congressmen from soybean states, as well as U. S. Department of Agriculture officials.



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"It is the contention of this Association that with the tremendous pressures that have been put on for increased cotton acreage in the South, and the pressure for more corn acreage in the Midwest, soybean acreage will suffer in spite of everything that can be done. With a price relationship of 1.8 to 1 or less between soybeans and corn we contend soybean acreage will shrink to or below the 1949 levels. If corn ceilings are set at \$1.75 per bushel, we contend soybean ceilings must be raised above \$3.15 to the farmer or production will slide materially. No one in Washington wants reduced soybean acreage—they want cheaper oils during the next year.

"We found USDA men very unhappy with ceiling prices on soybeans. It was their contention that there should be no ceilings on soybeans, only on the finished products of meal and oil. They contend the soybean ceiling was the starter of what will probably become a long list of ceiling prices on agricultural raw materials—something USDA did not want."

"6 Right Steps"

Over 150,000 pieces of literature had gone out in the Association's campaign to increase per-acre soybean production in 1951 as the Soybean Digest went to press.

With 1068 counties in 23 different states that produce soybeans being contacted, this is possibly the most extensive campaign ever to be put on by the Association.

News releases were being mailed, one a week, to 5,000 newspapers and radio stations, and 1,000 county agents urging farmers to take the steps necessary to increase their per-

acre yields of soybeans as part of the defense effort this year. The first release went out Mar. 9, the last one Apr. 12.

Over 110,000 copies of the leaflet, "Six Right Steps to Peak Soybean Production," had been sent out to people requesting them when the Digest went to press. The message is written for the man who grows beans, is being distributed through county agents, vocational agricultural teachers and others.

Copies of the leaflet are still available for the asking. Write Soybean Digest, Hudson, Iowa, and tell us how many you can use.

Repeal in Illinois

Margarine law repeal bills moved along toward final action in the Illinois legislature in March. Albert Dimond, chairman of the producer-processor committee for repeal of the margarine laws in that state testified before both Senate and House hearings on the bills. He also was to appear before the House sitting as a committee of the whole to consider the bills early in April.

The Illinois House executive committee recommended passage of the three margarine bills as follows Mar. 20:

H. B. 2—To repeal the statutory limitations on the amount of margarine that may be purchased by state institutions.

H. B. 51—To prohibit the manufacture of any margarine that contains any foreign fat or oil.

H. B. 52—To repeal the present margarine law and to substitute for it a statute to permit the manufacture and sale of yellow margarine and its sale in restaurants.

Similar bills were under consideration by the license and miscellany committee of the Senate.

Connecticut scrapped its prohibition against yellow margarine Mar. 9, less than 24 hours after Delaware had taken similar action, and the list of states with such prohibitions was narrowed to 11.

Wyoming legalized yellow margarine several weeks ago, and Michigan acted last November. In 1948, five states—Maine, Maryland, Massachusetts, Missouri and New Jersey — lifted their discriminations against yellow margarine. In 1949, four more followed suit — New Hampshire, California, Tennessee and Ohio.

The 11 states which still prohibit manufacture and sale of yellow margarine are Washington, Montana, South Dakota, Minnesota, Wisconsin, Iowa, Illinois, Pennsylvania, New York, Vermont and Oregon.

Use of Citrates

The use of citrates should be permitted in the manufacture of margarine. This was the content of a brief recently filed by Geo. M. Strayer, secretary-treasurer of the American Soybean Association, before the Federal Security Agency of the Food and Drug Administration.

Best Foods, Inc., New York City margarine manufacturer, has petitioned Food and Drug Administration that the standards of identity for margarine be changed to permit the use of a small quantity of citrates in margarine manufacture. The purpose of the citrates would be to retard flavor reversion of the soybean oil used in margarine. Strayer's action was in support of the Best Food petition.

"After refining and deodorization, soybean oil has a definite tendency to take on an undesirable flavor," stated Strayer in his brief. "This flavor instability has a tendency to carry over into margarine which contains any substantial amount of soybean oil.

"We think it is now a matter of practically common knowledge that citric acid is helpful in preventing flavor reversion of soybean oil and, accordingly, it should be permitted in margarine. We understand that it is absolutely harmless."

Strayer also proposed that the use of two citrate esters in margarine also be permitted if it can be shown that they definitely reduce flavor reversion in soybean oil, and if it is proved that they are harmless.

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Soys in Louisiana

For many years it has been the custom in the sugar cane district of Louisiana to plant corn with a legume crop or to plant a legume crop alone on the land before planting the cane crop, reports Emile Maier, agricultural editor of Sugar Journal.

About 20 years ago soybeans replaced cowpeas as the most important summer legume crop in the region. Among the reasons for this change, according to Maier, are the following:

1—The cowpea crop did not produce as good a cover as formerly, possibly because of some soil condition.

2—The seed cost for an acre of cowpeas was quite a bit greater than the cost for an acre of soybeans.

3—Tractor power began to replace mules and there was less need for corn production. Soybeans produced better than cowpeas when grown alone as they did not have the vining habit of growth which required the corn stalks to keep the vines from lodging on the ground.

4—Soybeans could be planted earlier in the spring. This permitted that work to be gotten out of the way before the cane crop needed all the manpower and equipment necessary for cultivation and fertilization.

When grown alone, soybeans will produce more green matter than cowpeas. Soybeans are more erect in growth and do not produce quite as good cover for the land as cowpeas do. However, it may be reasonable to conclude that a cover of soybeans is equal, from a plant food standpoint, to a cover of cowpeas when interplanted with corn.

The soybeans are planted very early in March and they are turned under in late June or early July, to prepare the land for the summer planting of cane. They should be turned under when they have reached the peak in food value.

Soys in Georgia

A ready market has encouraged the growing of soybeans in Georgia for seed as well as for hay, according to U. R. Gore of the Experiment, Ga., Experiment Station.

Gore says soybeans can be grown on most soil types in Georgia.

Farming on Contour

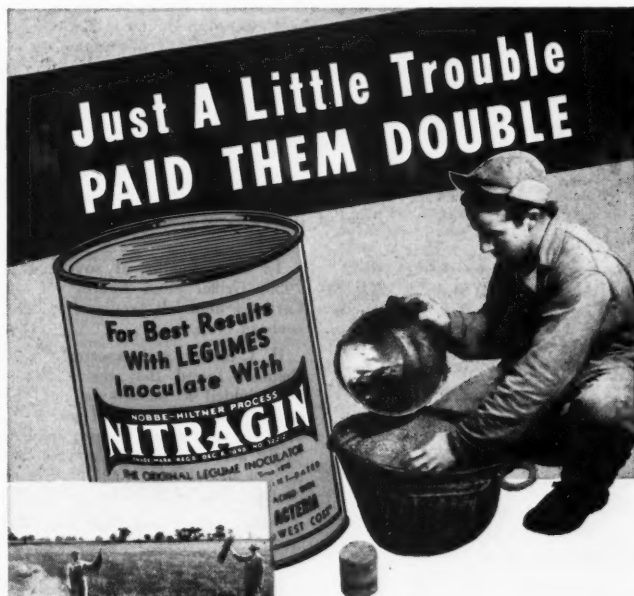
A University of Illinois study reported recently showed that you can expect higher crop yields with slightly lower labor and machinery costs by farming on the contour.

E. L. Sauer, federal soils economist at the College of Agriculture, says yields of soybeans and wheat were 3 bushels an acre larger when grown on the contour than yields of these same crops grown up and down

the slope on the same farms. Corn and oat yields were 7 bushels larger. These figures are 7-year averages, 1939-45, on from 40 to 124 farms.

Sauer also found in studying 270 farms for the 4 years 1940-43 that labor costs were 84 cents lower per crop acre on contour-tilled farms than on similar non-contoured farms. Power and machinery costs were 36 cents an acre lower.

Sauer has been studying the costs



Walter Latham, Ohio, proved how NITRAGIN inoculation prevents wasteful land use. Area not inoculated was a failure . . . inoculated section, a lush success. Second cutting exceeded the first.



Elmer Cheatwood, Georgia, made this two acre test. One acre's corn followed inoculated cover crop—on other acre no cover crop was used. 56.3 extra bushels of corn came from acre where inoculated cover crop had grown.

Sure, it takes a few minutes to inoculate legume seed properly. But successful crops save a lot of time and money. Seed that doesn't grow has been thrown away. Lost crops ruin rotation programs . . . waste valuable time. Don't speculate with soil and seed . . . inoculate with NITRAGIN. It boosts the stand . . . helps the land. Most agricultural authorities agree—and wise farmers insist on the regular practice of legume inoculation.

The farmers pictured at left are just a few of the thousands who know from experience the full value of inoculated legumes . . . the results they get with NITRAGIN. They think nothing of the few cents . . . the few minutes it takes to inoculate. They're after results and they get them with NITRAGIN, the inoculant in the orange-colored can. Your seedsman has it.

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and benefits of soil conservation on more than 350 Illinois farms for the past 14 years. And he says one thing is sure—a complete conservation plan will always pay for itself in time through larger yields. It'll probably take 5 to 8 years after you start the plan, but the extra income will start to come in 1 to 4 years.

Illinois Yields

Soybean yields for 1950 on the University of Illinois soil experiment fields were the highest in history, Jon H. Griffin, soils authority, reports.

Griffin, from the College of Agriculture, said that the average yield on 13 fields was 36 bushels an acre. But he added that the range in yields was the widest since 1940, when broad-scale tests began.

Top yield was 48.5 bushels at Clayton. Lowest yield was 7.5 bushels at Enfield.

To show quality of soybeans in 1950, Griffin cited figures on the Carthage field. It produced an ideal soybean crop.

H. J. Snider, soil experiment field chemist, found that the Carthage plot yielded 40 bushels an acre and gave about 18 percent oil and 40 to 42 percent protein. This meant that each acre produced about 500 pounds of oil and 1,000 pounds of protein.

Griffin points out that the 1950 crop proved again that soybeans do not respond very much to direct fertilization. One possible exception, however, is in potash-deficient soils. On these fields a direct application of potash will probably be an economical practice, he says.

Minnesota Report

The south central district was Minnesota's leading soybean district acreage-wise in 1950, reports the Minnesota State Farm Census for 1950, published by the Crop and Livestock Reporting Service, St. Paul. Total 1950 acreage for the south central district was 361,569.

West central district was second with 190,438 acres; and south central third with 183,036 acres.

Minnesota's leading county in 1950 was Blue Earth in the south central district with 73,883 acres. Second was Renville in the central district with 73,635 acres; and third was Faribault with 71,343 acres.

Minnesota's total acreage jumped from 725,024 in 1949 to 1,072,024 in 1950.

Pay Off in Delta

Take a look at the whopping yields reported by farmers in Washington County, Miss., advises Farm Journal.

C. E. Robbs raised 200 acres of Ogden soybeans that averaged 55 bushels per acre. O. B. Tucker combined 48 bushels per acre from a 22-acre patch. I. D. Nunnery harvested 75 bushels per acre from one field, and grew several hundred acres that averaged 55 bushels.

County Agent L. H. Mosely estimates that the 45,000 acres of soybeans harvested in Washington County last year averaged 35 bushels per acre.

Of course cotton is still the chief crop in this area, and more land will go into cotton this year than last.

But farmers in the three Delta states—Mississippi, Arkansas, and Louisiana—harvested a record-breaking 830,000 acres of soybeans last year. Now that they've got the equipment to handle them, most of these farmers plan to keep on growing soybeans. At 3 dollars per bushel, the net profit from a 50-bushel-per-acre soybean crop compares very favorably with cotton.

In Tennessee

Recommended varieties for seed and hay for Tennessee are S-100 (early), Ogden (midseason), and Volstate (late), according to Bulletin No. 218, "1950 Variety Performance Trials of Field Crops," by Sam F. McMurray, just issued by the Tennessee station.

The recommendations are made on the basis of the good yields, high oil content and good quality of beans, and distribution of maturity dates of these varieties. They mature about Oct. 1, Oct. 15 and Nov.



The new fluted force feed Dearborn-Feoria Fertilizer Grain Drill is designed to drill grain and distribute fertilizer fast and accurately. The extra large hopper is mounted on a sturdy angle steel box type frame. The implement is manufactured by Wood Bros., a subsidiary of Dearborn Motors Corp., national marketing organization for the Ford tractor and Dearborn farm equipment.

1 respectively, making it possible for a producer to distribute his harvest over a period of a month or more.

Wabash has had a fair yield in the experiment station tests in Tennessee the past two years. It is about two weeks earlier than S-100, and has a very high oil content.

There was very little difference in yield between any of the six leading varieties in the experiment station tests during the 1946-49 period. The six varieties included, in addition to the first three named above, Roanoke, Arksoy and Macoupin. The performance of these varieties differing in maturity is about equal over a period of years, although in any one year the rainfall distribution may favor an early, midseason or late variety.

Plant in Square

The fortunate farmer who has level land can add to his advantage by planting soybeans "around" the field instead of back and forth, says Dale Woolsoncroft, Iowa State College agricultural engineer.

By pulling into the field and following around the fence with the inside marker indicating each subsequent time around the field, the

planter will end up in the center of the field without having to be out of action for end turns.

Waste motion in turning and on end rows is saved and the crop can be cultivated the same way. In addition, the combine won't have to cross any bumpy ridges at harvest time.

Hale Farm Tests

Following are the results of soybean variety tests at Hale Seed Farms, Burdette, Ark. Results for the four years, 1947-1950, and the four-year average are included.

George Hale, the owner, reports that 1950 results are not typical. The cool, rainy weather was unusual, and favorable to early varieties such as Dortchsoy 67 and S-100.

Variety	Bushels per Acre				4-yr. Ave.
	1947	1948	1949	1950	
Dortchsoy 67	—	21.5	47.7	38.5	39.1
Hale Ogden 2	—	19.7	39.2	37.3	35.8
Dortchsoy 2	—	19.7	39.2	37.3	35.8
S-100	—	—	—	—	35.0
Ogden	—	20.0	40.2	33.1	34.7

Blackhawk in Ohio

The Blackhawk variety is *not* recommended in Ohio, say agronomists in that state.

The "Best Adapted Variety" map that appeared on page 15 of the

March issue of Soybean Digest showed Blackhawk in northern Ohio. This was an error. Blackhawk should not appear in Ohio at all.

The map is based on the recommendations of U. S. Department of Agriculture agronomists. Blackhawk is recommended for southern Minnesota, Wisconsin and Michigan, and northern Iowa, Illinois and Indiana, but not for Ohio. (See letter from Lewis C. Saboe on page 50.) Our apologies to the Ohio agronomists and to our readers.

OUR COVER PICTURE

As the planting season approaches growers all over the soy belt are gearing to do the best job possible of soybean production on available acres this year.

The soybean champions have their own ideas as to the steps necessary to push those yields up (see page 13). If to save time and trouble you fail to inoculate on the assumption that the bacteria lived over in the soil—you *hope*—you are definitely out of step with the champions.

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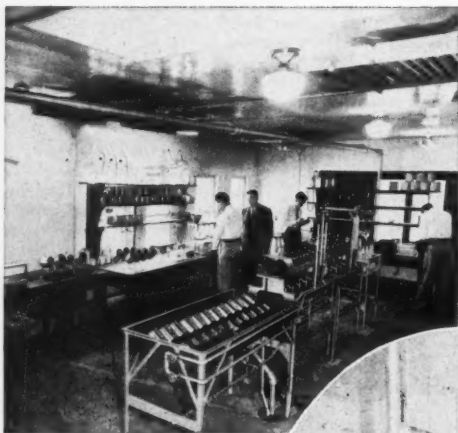
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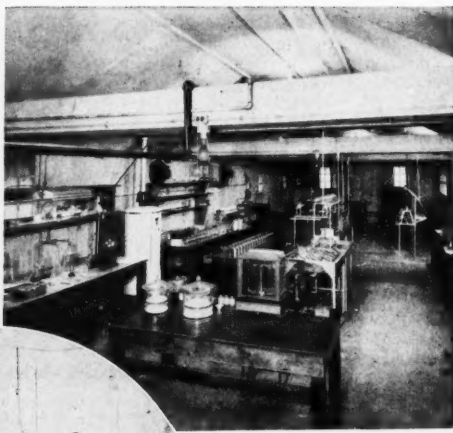
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How to Become a Yield Champion

By the Champions Themselves

Champions, when interviewed for ads in magazines or newspapers often give full credit for their success to a brand of cigarets or breakfast food. But the six soybean yield champions queried by the Soybean Digest gave no such answer. They all believe that good farming practices put them over the top.

Arkansas

Cecil Mann, Blytheville, Ark., won the North Mississippi, Ark., contest with a yield of 50.8 bushels per acre. Champion Mann grew Certified Ogden on the black delta land for which the territory is noted.

He followed a rotation of soybeans-cotton-cotton-cotton and back to soybeans in 1950. The field was plowed a month before planting. Then on the 17th and 18th of April he planted 60 pounds of treated, in-

William H. Bartja of Ontario believes his rotation that included wheat and sweet clover was responsible for his high yield.



APRIL, 1951

oculated seed per acre in rows 38 inches wide and 1½ inches deep.

To control weeds, Champion Mann cultivated his soybeans every week for the first three weeks and then every two weeks until the 15th of July. He hand hoed them once in August.

When asked what made the difference between his yield and those of the other contestants, Champion Mann gave this answer: "To become a soybean yield champion I worked the seedbed very good before planting. Also used certified seed which was treated and inoculated. The land was well drained at all times during the year."

Iowa

Kenneth Taylor, Indianola, Iowa, won the Iowa Master Soybean Growers Contest with a yield of 48.86 bushels per acre. He raised the certified Adams variety on Muscatine and Grundy loam.

The land had been limed in 1946 and 1949 with three tons per acre at each application. Past rotation was: 1947, one-half red clover and one-half soybeans; 1948, one-half oats and one-half corn; 1949, corn.

Two hundred pounds of 4-16-0 were applied in 1946 and again in 1948. Seven manure spreader loads of barnyard manure were applied per acre in 1950.

Champion Taylor planted 72 pounds of seed per acre in 36-inch rows just deep enough to cover the seed on May 18 and 19.

For weed control he harrowed and disked twice after plowing and before planting. He then harrowed immediately after planting and again crosswise four days later. He used a rotary hoe just as the soybeans were coming through the ground. The soybeans were cultivated three times, the last time when the plants had just about filled in between the rows. The weeds were pulled out by hand four times.

Champion Taylor believes that keeping down the weeds to give the soybeans a chance is very important.

Illinois

Carl L. Carlson, Roseville, Ill.,



Kenneth Taylor, Iowa champ, stands in center between Evar Anderson, Boone, Iowa, second place winner (left), and Geo. M. Strayer, secretary-treasurer of the American Soybean Association, who presented the awards.

won the Illinois soybean yield contest with a yield of 48.66 bushels per acre. He grew certified Hawk-eyes on a Grundy silt soil.

The field was limed eight years ago with three tons of lime to the acre. The past rotation was: 1947, corn; 1948, corn; and 1949, oats. One hundred and twenty pounds of 3-12-12 per acre was applied to the corn in 1948.

The field was plowed and disked once in early May. Nothing more was done until planting time when the field was again disked and harrowed. On May 19 Carlson planted between 45 and 60 pounds of inoculated seed per acre. He used 40-inch rows and planted 1½ inches deep.

To control weeds Champion Carlson cultivated the first time just as soon as the plants were high enough and again about two weeks later. About eight hours of hand labor were required to clean the soybeans after cultivation. Carlson does not believe there is any set rule for cultivation. It depends on the amount of weeds and the number of rains.

Why was Carlson able to achieve the top Illinois yield last year? He has some definite ideas on the reasons for his victory. He planted soybeans in the clover part of the rotation in the contest field because the clover seeding failed. Due to the fact that the field lays close to the buildings it has received more than its share of barnyard manure year after year.

Also a concentrated hog program

that calls for feeding all of the grain back on the land has served to build up its fertility. Carlson says that he would like to give the owner of the farm due credit for the wonderful cooperation shown in a livestock share-lease that has greatly increased and maintained the productivity of the farm.

Indiana

Robert F. Taylor, Arcadia, Ind., won the Indiana soybean yield contest with a yield of 51.7 bushels per acre. He grew certified Hawkeyes on a black soil that was limed with three tons of lime in 1948.

The past rotation was: 1947, clover; 1948, corn; and 1949, corn. Three hundred pounds of 3-12-12 per acre was applied to the corn as well as 200 pounds to the soybeans. The fertilizer was put in the rows at planting time.

Champion Taylor plowed the field the first week of April. He worked the land three times at about 10-day intervals before planting. Then on May 19 he planted 45 pounds of treated, inoculated seed per acre. He used 40-inch rows and planted four inches deep.

This is the way he handled his weed control. After the soybeans were planted he went over the field with a cultipacker and rotary hoe. He repeated this three times at four-day intervals. After the soybeans were up he began cultivating. After three cultivations they were too large for any more tillage. He used weather and ground conditions as a guide.

Robert Taylor of Indiana used four loads of manure per acre.



SUMMING IT UP

Methods of the six 1950 soybean yield champions are summed up here. Soil and climate varied widely—these men live as far apart as Arkansas and Canada.

Their rotations were different, and so were many of their methods. What did they do in common, that made them champs?

We note three things that stand out (perhaps you will notice others):

1—They planted fairly late in the season. All but one planted his beans between the dates of May 19 and 22.

2—But they made a real effort at weed control, both before and after planting. Most considered this of far more importance than early planting.

3—All grew their beans on soil that was highly fertile. Only one used a direct application of commercial fertilizer, but five out of six used fertilizer in the rotation. And half of the champs used barnyard manure on the bean crop.

SUMMARY

Used certified seed	5
Inoculated seed	4
Treated seed	2
Used lime	4
Fertilizer in rotation	5
Direct application of fertilizer	1
Barnyard manure	3
Rate of planting, 35 to 72 pounds per acre.	

For that extra push to the championship Taylor had this to say: "I think some of the main factors were getting the soil tested and doing some ditching. I always use certified seed and try to use good farming practices. I am a firm believer in the use of fertilizer on all crops. I also might add that I put about four loads of manure to the acre on the fields before I plowed.

Ontario

William H. Bartja, Scudder, won the Ontario soybean yield contest with Hawkeyes that went 41.2 bushels per acre. He raised Hawkeyes on a black loam soil. The soil had not been limed and no direct application of fertilizer was used.

His recent rotation: 1948, corn followed by winter wheat; 1949, sweet clover was planted in the wheat and allowed to grow until late November when it was plowed under. Then soybeans were planted in 1950. From 200 to 300 pounds of 2-12-6 per acre was applied to the corn crop.

As Bartja used winter plowing he waited until just before planting to work the field thoroughly. On May 22 he planted 45 pounds of seed per acre in 28-inch rows two inches deep.

For weed control Bartja used a rotary hoe just as soon as the soybeans were through the ground, and

every four or five days afterward until they were big enough to cultivate. He then cultivated three times.

Bartja believes his rotation was responsible for his victory. He has his soil tested. He believes that shallow cultivation pays best. He cultivated about one inch deep.

Missouri

J. E. Mollet, Rush Hill, Mo., won first in the Mexico, Mo., soybean achievement program with a yield of 48.5 bushels per acre. He raised Wabash on a Putnam silt loam. The field was limed in 1949 with 3½ tons per acre, and in the same year 150 pounds of 45-percent superphosphate and 1,000 pounds of rock phosphate were added per acre. Soybeans were planted in 1949 and again in 1950.

Mollet prepared his seedbed 10 days before planting. On May 20 he planted 35 pounds of certified seed per acre. Seed was planted in 38-inch rows 1½ inches deep.

Mollet was able to handle his weed control with two cultivations. One, when the plants were about four inches high, and the second when the plants were about a foot high.

Mollet believes his record yield was due to the fact that the field on which the beans were grown had been in blue grass pasture from 1903 to 1949.



—All photos by Soybean Digest
The soy protein panel conducted by J. W. Hayward gets under way. (Left to right) Hayward, F. H. Hafner, F. M. Crane, A. G. Hogan, W. F. Geddes and G. M. Briggs.

Minn. - Iowa - Mo. Meeting

We in agriculture have not done the job we should be doing of selling our industry and our products to the general public.

This is the belief of Theodore Fenske, associate director of agricultural administration of the Department of Agriculture of the University of Minnesota. He was speaker at the annual Tri-State Soybean Processors' Conference held in Minneapolis Mar. 8 and 9.

Fenske said too many people are now pointing the finger of scorn at agriculture and the processors of farm products because of their mis-

understanding of agriculture. There is need for understanding between farmers and others in the population, he said.

Fenske spoke on, "Whither Are We Going?" and made four rather definite predictions:

1—We will be engaged in a hot or cold war for many years, either a war of ideas or actual armed conflict.

2—We will continue to suffer from manpower shortages.

3—Inflation is a reality. The dollar has shrunk 5 cents in value since the Korean outbreak and will shrink another 5 cents this year. Within five years we may have a 25-cent dollar.

4—High taxation is a certainty. A fair-sized group of processors and agronomists and others from Minnesota, Iowa and Missouri attended the conference, sponsored jointly by the National Soybean Processors Association and the three state experiment stations.

Dr. J. W. Lambert of the division of agronomy and plant genetics, University of Minnesota, was in charge of arrangements for the conference. Presiding at the sessions were R. G. Houghtlin, president of the National Soybean Processors Association; M. F. Kernkamp, associate professor of plant pathology of the University of Minnesota; and J. W. Calland, director of the National Soybean Crop Improvement Council.

The National Soybean Improve-

ment Council film, "Soybeans—the Feature Story," was shown to the group by the man who produced it, Reid H. Ray of Reid H. Ray Film Industries.

Other speakers on the program and their subjects:

R. K. Davies, Archer-Daniels-Midland Co., Minneapolis, "Problems of the Processor;" S. A. Engene, division of agricultural economics, University of Minnesota, "The Economic Picture the Soybean Farmer Faces;" J. W. Lambert, "Leading Varieties in the Tri-State Area;" W. C. Etheridge, department of field crops, University of Missouri, "How Soybeans Became the Leading Cash Crop in Missouri."

J. W. Hayward, director of nutritional research, Archer-Daniels-Midland Co., moderator of panel, "Nutritional Value of Soybean Products," with F. H. Hafner, General Mills, Inc., Minneapolis; F. M. Crane, division of animal husbandry, University of Minnesota; G. M. Briggs, division of poultry, University of Minnesota; W. F. Geddes, division of biochemistry, University of Minnesota; and A. G. Hogan, department of biochemistry, University of Missouri.

J. W. Evans, president American Soybean Association, Montevideo, Minn., "Soybeans Tomorrow;" and Skuli Rutford, acting director agricultural extension service, University of Minnesota, "Productivity and Agriculture."

As many papers as are available will be published in future issues of the Soybean Digest.

The conference goes to Iowa State College at Ames in 1952.

Three agronomists visit between sessions: (left to right) W. C. Etheridge, University of Missouri; Iver C. Johnson, Iowa State College; and J. W. Lambert, University of Minnesota.



Director Reid H. Ray (left) and Ward Calland of the National Soybean Crop Improvement Council examine a film strip of Soybeans, the Feature Story at Minneapolis meeting where Ray showed the film. Ray and Calland worked together in producing the color picture, already in great demand for showings before farm and other groups. Demand has been so great that the film is now booked far in advance.



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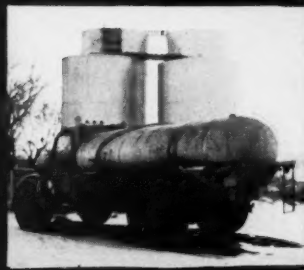
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This is the story of the seven Simonsens—and their unusual partnership.

The Simonsens—four brothers and three nephews—have made the enterprise bloom in the hills of northwest Iowa. Their address is the little town of Quimby in Cherokee County. But you won't find the Simonsen Mill Rendering Plant in Quimby at all. It is located on a side hill overlooking the Little Sioux River on one of the family farms two miles away.

Here are the soybean and flaxseed processing and rendering plants. They are probably the only ones of their kind in the U. S. not located on a railroad.

But this is only the beginning of the Simonsen operations. They run an alfalfa dehydrating plant and dry a large tonnage of the alfalfa produced in the area. They manufacture their own line of feeds, utilizing the meals, tankage, alfalfa and grains from their own and surrounding farms. They mix their feeds according to Iowa State College formulas. They sell these at retail and operate their own delivery service direct to

the farms of a 50- to 70-mile area. They also sell fertilizers.

Since the plants are not on the railroad all operations are carried on by truck. Even the oil from the beans and flax has to be hauled by tank-truck to the railroad. Some meal is sold wholesale in Sioux City and Omaha, and it is trucked in to these points.

Most of the trucks are run on propane gas, so the Simonsens merchandise propane and operate an appliance store in Quimby.

On their various farms the Simonsens are extensive cattle and hog feeders. They grow large numbers of turkeys. Until recently they raised mink which were fed on the refuse from the rendering plant.

* * *

If you visit the Simonsen enterprises, one of the partners will show you through the various buildings and over the farms. He will show you the 100,000-bushel soybean warehouse; and will take you through the bean mill with its four screw presses and the familiar warm smell of meal and oil; and the odor of linseed oil that you mentally connect with paint.

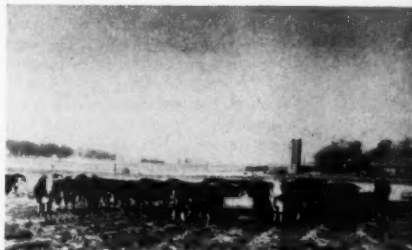
You will be introduced to the rendering plant through the receiving room where tons of dead farm animals from northwest Iowa farms are dumped every day. Downstairs you will see the cookers and the hydraulic press where the carcasses are converted each night into soap fats and high quality animal proteins.

You will see the truckers moving in with their loads of dead stock; and out loaded with feeds, the trucks having been sterilized with steam in the meantime. You will see the large herds of cattle and hogs on the Simonsen farms. . .

And you try to understand what makes the enterprises tick. What is the compelling idea back of them?

As you talk with the various Simonsen men, the story comes out. The Simonsens originally were practicing veterinarians in this region of vast livestock numbers. Five of the men are graduates in veterinary medicine at Iowa State College. A

These high quality steers will be candidates for Chicago night club steaks next fall. Brought in from the Nebraska Sandhills in October, they remained in the cornfield all winter.





Here you see part of the Simonson enterprise. At right is the rendering plant. Tanks in center hold soap fats. Tanks and building further back in left center of picture are bean storage tanks and warehouse. At left is bean mill and feed mixing plant. Buildings on the side hill make for an economical two-story operation since trucks can be driven into buildings or unloaded on both levels. And shelter afforded by the hill saves fuel.

sixth graduated in engineering at the same school.

They bought their first farm near Quimby back in 1920 and began raising corn and hogs. They bought a lot of tankage to feed their hogs. Eventually in 1929 they put up the rendering plant on their farm so they could make their own tankage. Soon they had some to sell.

The bean plant was built eight years later and came about in much the same way. Its purpose was to supply the Simonsens with meal for their own livestock and for their mixed feed business that was under way by that time.

At the time the mill was built, no soybeans were being harvested in Cherokee County. The Simonsens began growing soybeans on their own farms. They bought a whole carload of soybean seed. They planted some of the seed on their own farms, and interested farmers in the area in buying the rest in a series of winter meetings.

At the time they thought 6,000 bushels a year would be enough to supply them with the protein they needed. Since then, they have crushed as many as 600,000 bushels of soybeans and 100,000 bushels of flax in a year.

In close touch with the farms of the region, the Simonsens early noted one lack that was common to the livestock. It was protein. The area about Quimby, like most others in the U. S., did not have enough protein to meet the needs of its livestock population. Protein starvation was not uncommon then, is still not uncommon in this country of otherwise abundant feeds.

The Simonsen mill and rendering plant with the mixed feed business that has grown up around it have

done much to relieve the lack of protein in that part of Iowa.

Actually, they are in an ideal situation for a processing plant. To the east of Quimby are the flat lands of Buena Vista County and north central Iowa, the state's heaviest soybean producing area. To the west are the hills of the Missouri Valley, where some of the state's most intensive cattle and hog feeding operations are carried on.

Soybeans come in the back door from the east; and as feeds go out the front door to the west.

Quimby is only six hours by truck from the Sandhills of Nebraska, where some of the world's choice feeder cattle are produced. These are trucked into the hills of western Iowa and fed out on roughage, corn and concentrate.

The Simonsens feed large numbers of steers, many of them choice stuff that they let run in the cornfields in the fall, then winter on corn silage and soybean oil meal. By spring they are showing considerable bloom when they are put on alfalfa or alfalfa and brome pasture, with a supplement of corn and cob meal.

These are big fellows by the time they go to market the following fall—too big for the local or Sioux City markets. In Chicago the night clubs bid up for their huge choice steaks. The steers are bought in the fall and sold the next fall at the same time a new lot is brought in from the Sandhills, to eliminate all speculation.

* * *

The four older Simonsens, W. E., Alton P., R. E., and O. K., gave up the practice of veterinary medicine years ago. The younger men, E. Dean, Merle W. and Doyle W., were taken into the partnership after they graduated from college. Doyle runs

the office and Merle is engineer for the various enterprises. Alton is plant manager of the bean mill. Dean is in charge of advertising and public relations.

The Simonsens still perform post mortems on dead livestock brought to them. This is a free service, and considerable time is devoted to it each day.

The business is mostly retail, with 10 truck salesmen who live in outlying towns as the "contact" men. They serve a five-county area in northwest Iowa and even do some business in South Dakota. They pick up dead stock on the farms and haul it to the rendering plant; and deliver feed direct to farms on the return trip. Delivery service is free in half-ton lots or more. The men are paid on a commission and mileage basis, so actually each operates his own business.

The overall operation requires about 65 employees. You would expect this number of men and women to be hard to find in an area where there is almost no visible labor supply. The total population of the town of Quimby is only 230! Actually the opposite is the case. The people of the area have grown up with the enterprise and many have joined it. They like its stability and most stay with it permanently. There are usually more people wanting work there than there are jobs.

All the enterprises are closely integrated. The soybean mill and the rendering plant use the same office, the same scales, the same boiler. And they supply the same customers.

"Actually our business is a utilization of waste," says R. E. Simonsen. "The dead animals supply good protein. And we save freight on both the soybeans we buy and the feeds we sell, since they are moved comparatively short distances."

The Simonsen enterprise

is the result of

family cooperation

and a location where

heavy

soybean production

and heavy

livestock feeding

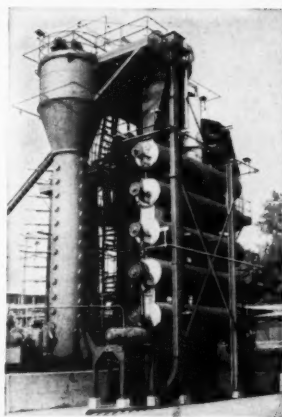
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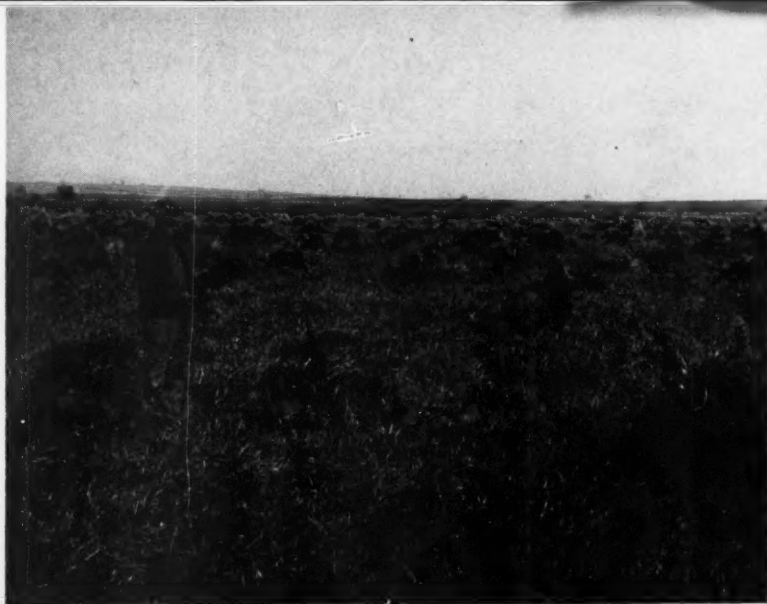


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Soybean hay in
shock. Photo by
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Soybeans as a Hay Crop

With all the tremendous expansion in the production of soybeans for meal and oil it is sometimes forgotten that the soybean plant makes excellent hay. The hay has high feeding value for all classes of livestock when it is cut at the proper stage of growth and properly cured.

Yields of two tons or more of hay per acre can be expected under favorable conditions. And on soils of high fertility yields of four to five tons per acre are obtained.

Soybeans were first grown in this country primarily for hay. As late as 1929 65 percent of the total soybean crop was used for hay. Last year well under 10 percent of the crop was used for that purpose. But a fact that may be overlooked is that almost as many acres of hay beans are still grown today as were grown back in the days when hay was the main outlet for soybeans in this country.

In 1950 1.1 million acres were grown for hay compared with 1.7 million acres back in 1928. So soybeans as a hay crop have not diminished much in total importance.

USDA Farmers Bulletin No. 2024, Soybean Production for Hay and

Beans, recently revised by W. J. Morse, J. L. Cartter and Edgar E. Hartwig, gives due weight to the value of soybeans as a hay crop. The information in this article is taken from that bulletin.

Soybeans for hay are raised primarily in the eastern half of the country. They are not a difficult hay crop to raise. They make a very good summer catch crop behind winter and spring grain crops or when other legume seedings fail.

Widely Adapted

Soybeans as a hay crop are adapted to a wide area and many soil types. They can be used in any rotation. They have a lower lime requirement than red or sweet clover or alfalfa. Soybeans should not be considered a competitor of clover, alfalfa or lespedeza in the region suited for these crops, but rather as a supplement or addition to them.

The variety and method of production used will largely determine the quality of the crop.

A suitable hay variety is one that has a fine stem and an abundance of leaves, as this gives the best quality of hay and minimizes curing diffi-

culties. As for total hay yields, in general the adapted seed varieties will yield as much as the so-called "hay types." But they will be of much lower quality.

The commonly used hay varieties in the Northern states in order of earliness are: *Wisconsin Black, Cayuga, Wilson, Peking, Kingwa, Ebony and Virginia*. Some of the commonly grown hay beans in the Southern states are: *Laredo, Tanner, Haysseed, Palmetto, Gatan, Otootan and Avoyelles*.

These varieties are rather tall and viny with a tendency to lodge very badly. Since the total seed yield of the hay type is apt to be low the seed usually sells for more than that of the seed type.

Soybeans for hay like those for seed do better and make higher quality hay when fields are kept free of weeds. Best weed control can be had by planting 12 to 18 seeds per foot of row in rows 24 to 30 inches wide. Cultivate once or twice and the plants will soon be shading the ground.

When a grain drill is used to plant soybeans for hay provision should be made to go over the fields two or

three times with a harrow or rotary hoe while the plants are small to destroy weeds that are just emerging.

When seed type soybeans are being planted for hay they should be planted thicker than normal. The crowding will tend to keep the stems fine.

Cut at Right Time

It is very important to cut soybeans for hay at the proper time, although experimental data do not agree as to just when the best time is. In general, though, it can be said that to get the utmost in yields, palatability and feeding value, soybeans should be cut for hay when the seeds are one-half to two-thirds developed.

In case of drought don't wait for the proper plant development, but cut just as soon as the plant begins to shed leaves.

As for the method of cutting, either a mower or binder can be used. If a binder is to be used the soybeans should be planted in lands of about 4½ feet wide with a foot between lands so that the binder can make a clean cut. The bundles should be loose and placed in small open shocks. In damp weather there is some danger of loss from mold with this method. But in favorable weather the method is satisfactory.

Curing mower-cut soybean hay is more difficult than curing alfalfa or clover. But after some experience you can usually secure a hay of good quality from soybeans. Since the stem and seed require more drying than the leaves special care should be taken to save the leaves.

A common method is to cut the crop in the morning as soon as the dew is off the plants. Leave in the swath until thoroughly wilted. After wilting and before the leaves become dry and brittle, rake the hay into windrows and leave a day or two depending on the weather. Then place in tall, narrow cocks to complete the curing. After four or five days of fair weather, soybean hay is ready to be stacked or housed. The cocks or bunches should be opened a few hours before hauling to dry out thoroughly.

The Ohio Agricultural Experiment Station found that when reasonable drying weather prevails soybeans windrowed with side delivery rakes after wilting and turned occasionally cured just as rapidly and more uniformly than when left in the swath.

Since soybean stems and seeds yield their moisture rather slowly,

soybean hay is often stored or baled too wet. This causes heating and molding and thus a loss. A good test for moisture is to twist a handful of the hay. If it breaks after being twisted once or twice it is well cured. If on the other hand, the stems are hard to break or sap is squeezed out of the stem and pods the hay is not in condition to be stored or baled.

Soybean hay can be baled, but extra care should be taken to make sure that it is fully cured.

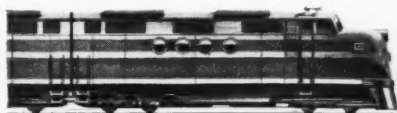
Soybean hay can be stacked in the open if grass or some other material is put over the top of the stack

to prevent moisture from entering. It is also a good idea to place a pole in the center of the stack.

Artificial drying of soybean hay through the use of barns with air ducts and forced ventilation is very successful. For this method the hay should be allowed to dry in the fields four to five hours. Then put it in the barn. In good dry weather the moisture will be down to 20 percent in four days or so.

Artificially dried hay is of higher quality and the loss from leaching or bleaching and leaf shedding is almost completely eliminated.

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SOYBEANS *Tomorrow*

By JOHN W. EVANS

President, American Soybean Association, Montevideo, Minn. From his address before the Tri-State Soybean Processors conference at Minneapolis, Mar. 9.

The soybean processors and our university experiment station staffs are very important links in the development of the soybean which to me is the most rapidly expanding branch of agriculture today. I am speaking for the third group involved, namely the growers of soybeans.

Less than 15 years ago the U. S. was importing 50 to 75 millions bushels of soybeans. Then the American farmer became interested. The processor likewise became interested and in the back of the stage the scientific and research men of our governmental agencies both federal and state were able to bring out their wonderful contributions in the way of improved varieties. There have been great investments of both public and private research in the production and processing and utilization of the soybean and its products. The versatile possibilities of the plant were such and it filled so many needs both human and animal that it is definitely a permanent and expanding factor in our agriculture.

There have been headaches, disappointments, frustration, and financial losses. Yet these early pioneers in all fields felt some undefinable

challenge that retained their interest. Many of you men present here today know this story of the contribution of both government and industry better than do I. I think we should not allow it to be forgotten that there have been many difficulties and harrowing experiences along the path of the soybean. Too many growers today have very little comprehension of the travail that went on in the early years of the industry. The farmer growing soybeans would be nowhere if it had not been that industry and government exerted themselves to develop the possibility of the plant.

This is my first appearance before an assemblage of soybean processors and I as a grower extend to you a sincere salute in respect for your contribution. Among University people I am on a little more familiar foundation, more especially in Minnesota. Our Minnesota scientists and educators welcome the farmer to this campus. It was my privilege to serve eight years as president of the Minnesota Crop Improvement Association. In the last 25 years I have had the pleasure of observing the increased interest that the average farmer has taken toward his farm crops. Twenty-five years ago we had to get out and hustle to get a dozen men to attend annual meetings to elect officers. In recent years we

have had three to four thousand members who are active members in our association, which I think you understand is the organization set up to promote pure seeds. This campus has been favored in having some of the leading scientists and plant breeders of the nation and yet until the last 10 years have we provided them with the physical equipment and buildings appropriate to their needs? Much yet can be done. It has taken considerable shoe leather on the part of many of us to secure some of the new buildings, facilities that you see now on this campus that are serving agronomy, plant pathology, and seed stocks division.

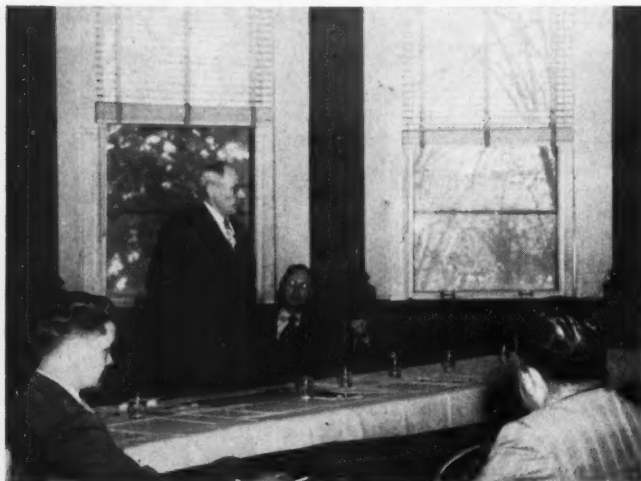
Fifty years ago very few people conceded that Minnesota would produce corn. My father farmed three quarter sections and in 1896 had 12 acres of corn. The neighbors thought that he was a theorist. Today Minnesota takes off her hat only to Iowa and Illinois and very often acquires the rating of third place among the states of the nation for her corn production. It is Minnesota's most profitable crop on an acreage basis.

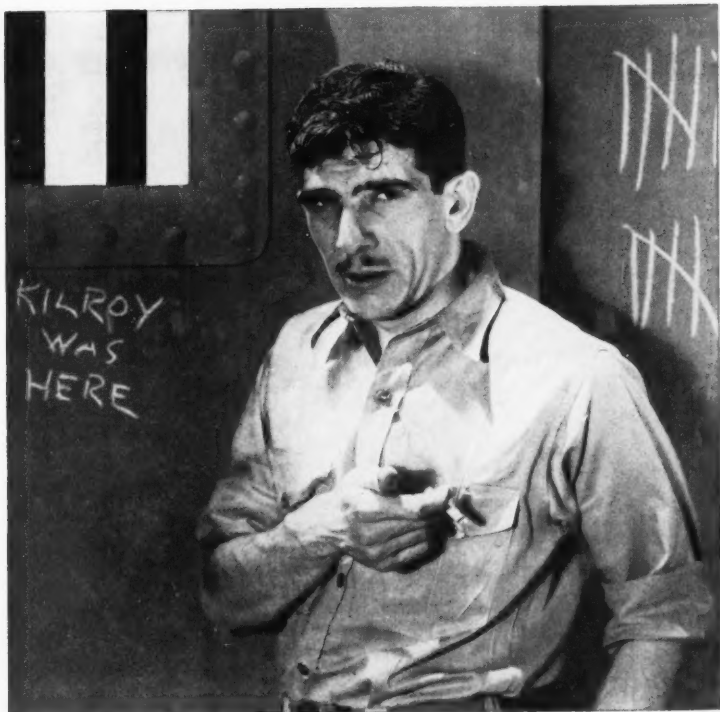
Why Minnesota?

This same thing can happen to the soybean. Just this week in Washington, D. C. I met a very fine courtly cotton growing gentleman from one of the southern states, who upon my introduction to him exclaimed, "How does it happen a Minnesota man is serving as president of the American Soybean Association?" The gentleman felt better when he was advised that Minnesota is the sixth state in the union for soybean production. If it were not for the fact that you people from Missouri had considerable of our northern soil fertility down in the delta section of your state along the Mississippi River and are getting bigger yields for the acre, I think Minnesota would be in fifth place and Missouri would be in sixth place.

Soybeans do seem established as one of the important crops of Minnesota. Up until five years ago I was not entirely sure of this fact myself. As a cash crop, the returns are third in their rating, corn being first with flax second. I do not have my crop statistics report with me on this trip but believe that soybeans

John W. Evans addresses the Minneapolis processor group.





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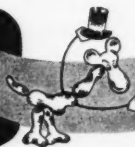
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rate sixth place for gross returns of our Minnesota field crops.

As to the future, the expansion of the soybean in Minnesota is perhaps more dependent upon our plant breeders than any other factor. We have made splendid progress within the last 10 years but we must have varieties that will mature a crop with high oils and that can be grown further north. My observation is that soybeans do not do too well above an altitude of 1400 ft. When our plant breeders do have an answer for that problem then you will have South Dakota growing more soybeans. Just two days ago I had breakfast with a very intelligent dairyman from Grand Forks, N. D., who was asking me what new varieties I could provide for him to use on his farm. Such is the unfolding picture. I think I have sufficiently stressed the interdependence of the growers, scientists, and the processor in what I have once stated to be the most rapidly expanding field of agriculture. What King Corn has accomplished in the last 50 years may find a parallel in the contribution that the soybean may make for the American farmer in the next 25 years.

Worth More Money

To the grower the soybean should be worth more money. The work of the processor, the manufacturer, and industrialist, is to realize this greater value for us. A plant that has 30-35 percent edible protein or more than the conventional dairy feed supplement, has value in itself. When it also has 8 to 10 pounds of edible oil, and golden in color and rich in edible food values, it has additional value and when we find that a bushel of soybean has three times as much protein, 10 times as much fat, and nearly three times as much valuable mineral as a bushel of wheat, and likewise four times

Buckeye's Louisville Plant



This is the modern soybean processing plant of Buckeye Cotton Oil Co. at Louisville, Ky. Both solvent and screw press methods are used. "Buckeye" soybean oil meal is produced. R. B. Williams is district manager.

as much fat, four times as much protein, and nearly four times as much valuable minerals as a bushel of corn, that bushel of soybeans should bring the producer a satisfactory financial return. We feel definitely that our product should have more money than we might receive from other crops.

Our government this year is asking for an increased acreage of corn and cotton and asks for 13 million acres of soybeans, practically the same as 1950. It looks to us that the South is going to expand its cotton acreage but mostly in new areas, and will hold its soybean acreage with very little shrink. Many of us are concerned about the shrink in soybean planting that may occur over the Cornbelt states.

Corn is a very profitable crop, likewise it is a cultivated crop. Soybeans are a cultivated crop. Prices offered rather than sentiment will influence the final acreage planted in 1951. No ceilings have been placed on corn but ceilings have been placed on soybeans. We feel that there must be more incentive provided than the present ceiling price on soybeans and soybean products provide especially when the corn parity is

about \$1.75 per bushel and the farmer knows that ceiling cannot be less than the parity. Corn has all the advantage in this competitive price picture. The farmer has already received a roll-back on soybean oil prices, one of the few farm commodities given a ceiling at the same time that a 10 percent increase in labor's wages is approved.

We are proud of our processing facilities in this state. We are likewise proud of our experiment station staff. We have lots of work to do to give our growers in Minnesota and also the nation the wider outlook they need and a greater comprehension of the values for both human and animal uses that the soybean can make to our economy.

— s b d —

PILLSBURY KILLED

Edmund P. Pillsbury, vice president of Pillsbury Mills, Inc., and two other prominent Minneapolis, Minn., men were killed when their plane crashed during a sleet storm at Paxton, Nebr.

Pillsbury, 37, who was piloting his Ryan Navion plane, died shortly after the crash in a Sutherland, Nebr., hospital.

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Amino Acid Requirements of Swine

By J. K. LOOSLI

Professor of Animal Nutrition, Department of Animal Husbandry, Cornell University. Presented at the 1950 Cornell Nutrition Conference.

Relatively little is known about the amino acid requirements of swine in comparison with the rather complete knowledge for poultry. While it has been recognized for at least 40 years that swine need certain amino acids for growth, only during the last two years have data been published on the requirements of some of the amino acids. These recent studies have given us data on the quantitative requirements of tryptophan, lysine, methionine and isoleucine.

Beeson and associates² reported that the DL-tryptophan requirement of growing pigs fed a diet containing 24 percent of protein was probably not more than 0.2 percent of the diet. Studies by Luecke *et al.*³ on niacin-tryptophan interrelationships and by Whitehair *et al.*⁴ have added to our knowledge regarding this amino acid. Tests at Cornell

have included lysine,⁵ isoleucine,⁶ methionine,⁷ and histidine. The results of these latter experiments will be discussed in some detail.

Lysine

Brinegar *et al.*^{1,5} studied the lysine requirement of growing weanling pigs using three different diets. In the first test linseed meal supplemented with histidine and methionine was used in a semi-purified diet containing 10.6 percent of crude protein. Using this diet a level of 0.6 percent of L-lysine resulted in more rapid gains in weight than lower levels and equal to a larger intake of lysine. The efficiency of feed utilization followed the same trends as the rates of gain. These data (table 1) show that the L-lysine requirement of growing swine is approximately 0.6 percent of a diet containing about 10 percent of protein.

Other diets were used which contained approximately 22 percent of crude protein because this is more nearly the amount which is fed on farms to obtain rapid gains in weanling pigs. In one of these feed mixtures the protein was supplied by sesame meal and in the other by meat and bone scraps, wheat and zein. Both rations were fortified with methionine and histidine to insure adequate amounts of these amino acids. Tryptophan was also added to the latter diet. With both of these diets maximum rates of growth and greatest efficiency of feed utilization and nitrogen retention occurred on diets containing approximately 1.2 percent of L-lysine (table 2). These data show clearly that as the protein content of the diet is increased from 10 to 22 percent the lysine requirement for growth of swine increases from 0.6 percent to 1.2 percent of the diet. Grau and Kamei⁸ have recently reported a similar relationship for chicks. Undoubtedly future research will show that for all essential amino acids the amounts required will depend upon the protein contents of the diets fed.

Although the relation of protein level to amino acid requirement appears to complicate the problem of making sure that adequate amounts

Table 4—Effect of methionine on the growth of pigs and on the biological value of the protein

	Protein source of diet		
	Soybean oil meal	Soybean oil meal plus methionine	Whole egg
Methionine content (%)	0.07	0.27	0.27
Av. daily gain (lb.)	1.09	1.17	1.15
Biological value	80	87	86

Table 5—Comparative amino acid requirements for growth

Species	Amino acid requirement (% of diet)				
	Histidine	Isoleucine	Lysine	Methionine	Tryptophan
Chick	0.3	0.6	0.9	0.5	0.25
Pig	0.27	0.7	1.2	0.27	0.27
Rat	0.4	0.5	1.0	0.6	0.2

of the essential amino acids are present in various practical rations, this is not necessarily the case. Expressing the amino acid requirements as percentage of the protein rather than as percentage of the diet greatly reduces the differences. For example, on the 10.6 percent protein diet the lysine requirement of 0.6 percent is equivalent to 5.7 percent of the protein and on the 22 percent protein diet the requirement of 1.2 percent lysine is equivalent to 5.5 percent of the dietary protein. In these studies the apparent absorption of the lysine was also measured. It was found on the 22 percent protein diet that the requirement of digestible (absorbed) lysine was equivalent to 5.0 percent of the protein.

Isoleucine

Brinegar *et al.*⁷ have also studied the isoleucine requirement for the growth of weanling pigs. Blood flour supplemented with methionine furnished the protein. Successive increments up to a level of 0.7 percent of L-isoleucine produced increases in the rate of growth and in the efficiency of feed utilization, but higher levels had no further beneficial effects (table 3). Thus, the L-isoleucine requirement for growth of swine appears to be approximately 0.7 percent of a diet containing 22 percent of protein or 3.2 percent of the dietary protein.

Methionine

The methionine requirement of swine was studied by Bell *et al.*⁹ using a semipurified diet containing 10.0 percent of protein furnished by soybean oil meal. The basal diet was supplemented with methionine to bring its content up to the amount in whole egg protein. A diet containing whole egg was also fed in order to study the growth rate and

Table 1—Lysine requirement of swine fed a 10% protein ration

	L-lysine content of ration (%)				
	0.34	0.42	0.50	0.58	0.74
No. of pigs	3	3	3	3	2
Initial Wt. (lb.)	34.4	30.6	32.8	34.8	39.9
Av. daily gain (% of wt.)	1.57	1.81	1.94	2.25	2.32
Pounds gained per pound of feed	.28	.31	.34	.37	.37
Digested nitrogen retained (%)	35.9	34.2	45.7	60.0	59.4

Table 2—Lysine requirement of swine fed a 22% protein ration

	L-lysine content of ration (%)			
	0.96	1.00	1.20	1.40
No. of pigs	5	5	5	5
Initial Wt. (lb.)	43.0	43.6	42.1	42.3
Av. daily gain (lb.)	0.98	1.02	1.10	1.12
Pounds gained per pound of feed	.38	.39	.42	.43

Table 3—Data for rate of growth and efficiency of feed and nitrogen utilization as related to isoleucine intake

	L-isoleucine content of ration (%)					
	0.23	0.46	0.58	0.70	0.81	0.93
No. of pigs	4	4	5	5	5	5
Initial weight (lb.)	41.4	41.4	39.9	40.1	39.5	38.8
Av. daily gain (lb.)	0.73	1.15	1.27	1.39	1.26	1.32
Pounds gained per pound of feed	.32	.46	.47	.55	.50	.52
Digested nitrogen retained (%)	24.4	31.8	—	42.1	—	—

biological value of the proteins, since egg protein has been shown to be of very high quality for rats. The pertinent data from this comparison are shown in table 4.

These data show that adding methionine to soybean oil meal resulted in increased rates of gain and in a higher biological value of the protein. The methionine supplemented soybean oil meal diet was equal in value to whole egg protein both in biological value and in the rates of gain, suggesting that the methionine requirement is not greater than 0.27 percent of the diet or 2.7 percent of the dietary protein when a 10 percent protein diet is fed. The actual methionine requirement has not been determined but Bell⁹ has estimated that 0.2 percent of a diet containing 10 percent protein should be adequate.

Histidine

Brinegar¹ reported preliminary studies on the histidine requirement of growing swine. On a diet containing 10 percent of protein from linseed meal, more rapid rates of gain resulted when histidine was added. In a second study adding histidine supplements to a 22 percent

protein sesame meal diet did not give a growth response. These data suggest that growing pigs need histidine and that the requirement does not exceed 1.9 percent of the protein. However, these limited studies should be repeated to definitely establish the histidine requirement.

Discussion

It is interesting to compare the amino acid requirements of different species of animals. Such a comparison is shown in table 5 for the five amino acids on which data have been presented for pigs. It can be seen that except for methionine the requirements do not appear to differ greatly among chicks, rats, and pigs.

Using the values shown and the reported amino acid analyses of feedstuffs it now appears that a relatively small number of deficiencies would be expected in practical swine rations. Linseed and sesame meals are probably deficient or borderline in histidine content. All plant proteins except soybean oil meal are deficient in lysine. Soybean and peanut oil meals appear deficient in methionine; however, suggested interrelationships between choline,



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Table 6—Arginine, histidine and lysine content of soybean products

Product	Crude protein (N x 6.25)	Arginine		Histidine		Lysine	
		in the sample	in crude protein	in the sample	in crude protein	in the sample	in crude protein
			percent		percent		percent
Soybean Meal (hydraulic)	45.70	3.26	7.13	1.12	2.45	2.73	5.97
Soybean Meal (hydraulic)	42.34	3.26	7.70	1.16	2.60	2.73	6.45
Soybean Meal (hydraulic)	43.32	3.20	7.38	1.10	2.54	2.66	6.14
Soybean Meal (solvent)	48.52	3.50	7.21	1.12	2.31	2.83	5.83
Soybean Meal (solvent)	46.59	3.67	7.88	1.18	2.53	3.00	6.44
Soybean Protein (commercial)	79.50	5.72	7.20	1.85	2.33	4.59	5.77
Soybean Feed	37.19	2.51	6.75	0.95	2.55	2.55	6.86
Average for soybean products			7.32		2.47		6.21

Table 7—Valine, leucine and isoleucine content of soybean products

Product	Crude protein (N x 6.25)	Valine		Leucine		Isoleucine	
		in the sample	in crude protein	in the sample	in crude protein	in the sample	in crude protein
			percent		percent		percent
Soybean Meal (hydraulic)	45.70	2.49	5.45	3.54	7.75	2.50	5.47
Soybean Meal (hydraulic)	42.34	2.27	5.36	3.30	7.79	2.37	5.60
Soybean Meal (hydraulic)	43.32	2.35	5.42	3.41	7.57	2.39	5.52
Soybean Meal (solvent)	48.52	2.59	5.34	3.65	7.52	2.68	5.52
Soybean Meal (solvent)	46.59	2.54	5.45	3.51	7.53	2.51	5.39
Soybean Protein (commercial)	79.50	4.09	5.14	6.18	7.77	4.65	5.85
Soybean Feed	37.19	2.38	6.40	3.28	8.82	2.28	6.13
Average for soybean products			5.51		7.86		5.64

Table 8—Methionine, phenylalanine, threonine and tryptophan content of soybean products

Product	Crude protein (N x 6.25)	Methionine		Phenylalanine		Threonine		Tryptophan	
		in the sample	in crude protein	in the sample	in crude protein	in the sample	in crude protein	in the sample	in crude protein
			percent		percent		percent		percent
Soybean Meal (hydraulic)	45.70	0.56	1.44	2.26	4.94	1.79	3.92	0.73	1.60
Meal (hydraulic)	42.34	0.60	1.42	2.60	4.72	1.79	4.23	0.75	1.77
Meal (hydraulic)	43.32	0.58	1.34	2.15	4.96	1.73	3.99	0.76	1.75
Meal (solvent)	48.52	0.65	1.34	2.32	4.78	1.95	4.02	0.82	1.69
Meal (solvent)	46.59	0.66	1.42	2.28	4.89	1.85	4.97	0.76	1.63
Protein (commercial)	79.50	0.93	1.17	4.40	5.53	2.83	3.56	1.16	1.46
Feed	37.19	0.66	1.77	1.92	5.16	1.89	5.08	0.61	1.64
Average for soybean products			1.41		5.00		4.11		1.65

Tables 6, 7 and 8 are taken from Bulletin No. 692, Texas Agricultural Experiment Station.

vitamin B₁₂ and methionine make this uncertain. Corn and tankage are marginal in tryptophan content. Peanut oil meal may be low in threonine. Blood meal and tankage are low in isoleucine. It would appear impossible to make a ration containing three or four protein sources which would be very deficient in any amino acid, and this conclusion is in agreement with experience in feeding swine.

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FLORIDA ENTERPRISE

The Cypress Land Farms Co., St. Louis, Mo., has acquired an interest in a new farming enterprise to be known as Indian Trail Ranch about 18 miles west of Palm Beach, Fla., according to H. I. Cohn, Jr., who will assist in management.

The area is on the edge of the Everglades, and consists of many thousands of acres of rich black muck, as well as sand land. Cohn says, "A portion of the extensive Everglades drainage project goes through the western part of the Ranch. Immediate plans call for the installation of a dehydrator and the planting of corn and soybeans.

Cohn, secretary-treasurer of Cypress Land Farms Co. and manager of Carrollton Farm Supply, Carrollton, Ill., will move to the Palm Beach area within the next two months.

LITTLE ASAS BULLETIN

Do you want
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did it, on
page 13.



Name Industry Committees

Secretary of Agriculture Charles F. Brannan has announced the membership of the Industrial Oils Industry Advisory Committee, which will consult with the Department on special problems arising from the defense program.

The committee, made up of representatives of all segments of the industry, will be under the chairmanship of George L. Prichard, director of the fats and oils branch of the Production and Marketing Administration. Lawrence A. Grogan of the fats and oils branch will serve as vice-chairman of the committee.

The industrial oils to be considered by this committee include castor, tung, oiticica, linseed, tall, fish, fatty acids, industrial soybean oil, sperm, perilla, and cashew shell nut oil. The committee will advise on problems of production, processing, and marketing; requirements for materials and facilities to enable the industry to meet domestic and defense needs; and on any necessary orders associated with the defense emergency.

Industry members named to the Committee by the Secretary, and the companies they represent, are as follows:

Leon Falk, Jr., Falk and Co., Pittsburgh 22, Pa.; R. L. Beyer, soybean, coconut and castor oils, Spencer Kellogg and Sons, Inc., Buffalo, N. Y.; John H. Gillen, linseed oil division, Pittsburgh Plate Glass Co., Pittsburgh, Pa.; Frank Hass, Werner G. Smith division of Archer-Daniels-Midland Co., Cleveland, Ohio; W. C. Dabney, Devoe and Reynolds Co., Louisville, Ky.; I. M. Colbeth, Baker Castor Oil Co., New York 5, N. Y.; Benjamin M. Belcher, Benjamin Moore and Co., 511 Canal St., New York 13, N. Y.; Tom A. Barber, J. Howard Smith, Inc., Port Monmouth, N. J.; W. F. Hoffmann, Jr., Irvington Varnish and Insulator Co., Irvington 11, N. J.; Dr. P. J. Clarke, Rohm and Haas, Philadelphia 5, Pa.; John W. Nestor, E. I. du Pont de Nemours and Co., Wilmington, Del.; R. F. Brown, Emery Industries, Cincinnati 2, Ohio; H. F. Lenz, Armour and Co., Chicago, Ill.; M. L. Lampe, Armstrong Cork Co., Lancaster, Pa.; Howard M. Abbott, Hardesty Chemical Co., Inc., New York, N. Y.; Stanley Goranflo, Wilson and Co., Philadelphia 48, Pa.; George Prifold, Pabco Products, Inc., Washington, D. C.

Other committees announced by Brannan are:

Refining Edible Oil Industry Committee, George L. Prichard, chairman. Members of the committee are:

A. Q. Petersen, Wesson Oil and Snowdrift, New Orleans, La.; W. H. Gamble, Corn Products Refining Co., New York, N. Y.; R. E. Biggers, Lookout Oil & Refining Co., Chattanooga, Tenn.; H. G. Bissinger, E. F. Drew & Co., Inc., New York, N. Y.; Jim Parry, Procter & Gamble Co., Cincinnati 1, Ohio; W. S. Dorsett, Interstate Refining Co., Sherman, Tex.; John Bryson, Dothan Oil Mill Co., Dothan, Ala.; Sam Cooper, The Humko Co., Memphis, Tenn.; R. J. Roelsing, Vegetable Oil Products Co., Inc., Wilmington, Calif.; J. Hafner, Wilson & Co., Inc., Chicago 9, Ill.

Crusher Committee

Crushers Industry Advisory Committee, George L. Prichard, chairman. Industry members are:

J. R. Gill, Southland Cotton Oil Co., Paris, Tex.; H. E. Carpenter, Lexington Soy Products, Lexington, Ohio; Glenn Pogeler, North Iowa Coop. Processing Association, Manly, Iowa; E. H. Russell, Minnesota Linseed Oil Co., Minneapolis, Minn.; Vic Acer, Spencer Kellogg & Sons, Inc., Buffalo, N. Y.; Tom A. Barber, J. Howard Smith, Inc., Port Monmouth, N. J.; R. M. Hughes, Greer Oil Mill and Feed Co., Greer, S. C.; Roy B. Davis, Plains Coop. Oil Mill, Lubbock, Tex.; Jasper Giovanna, Decatur Soy Products Co., Decatur, Ill.; E. K. Scheiter, A. E. Staley Mfg. Co., Decatur, Ill.; Sol B. Coolidge, The Sherman-Williams Co., Cleveland, Ohio; Edward G. Brown, Brown Oil & Chemical Corp., Port Richmond, Staten Island, N. Y.; C. W. Hand, Pelham Oil & Fertilizer Co., Pelham, Ga.; W. H. Jasspon, Perkins Oils Co., Memphis, Tenn.; R. G. Brierley, Archer-Daniels-Midland Co., Minneapolis, Minn.; D. M. Barrows, El Dorado Oil Works, San Francisco 4, Calif.; L. O. Crosby, Jr., Crosby Forest Products Co., Picaune, Miss.; Michael Lisanti, American Tung Mills, Inc., of Alabama, Florala, Ala.; Harry Baker, Producers Cotton Oil Co., Fresno, Calif.

Grain Handlers

Grain Handling and Marketing Industry Advisory Committee, William McArthur, deputy director of the

grain branch of the Production and Marketing Administration, chairman. John E. Tripp, in charge of procurement and sales for the branch, vice chairman. Industry members:

R. J. Barnes, Tidewater Grain Co., Philadelphia, Pa.; E. J. Barry, Farmers Union Grain Terminal Association, St. Paul, Minn.; E. B. Evans, Evans Grain Co., Decatur, Ill.; Carl E. Bostrom, Lowell Hoit and Co., Chicago, Ill.; James H. Dean, Farmers Cooperative Commission Co., Hutchinson, Kans.; James L. Young, Norris Grain Co., St. Louis, Mo.; Jack N. Greenman, Uhlmann Elevators Company of Texas, Ft. Worth, Tex.; Del Gerdorn, Colorado Mill & Elevator Co., Denver, Colo.; J. W. Sheperd, Lewiston Grain Growers, Lewiston, Idaho; C. M. Gregory, Farmers Cooperative Co., Dike, Iowa; M. D. Guild, Indiana Grain Cooperative, Inc., Indianapolis, Ind.; H. E. Sanford, Continental Grain Co., Portland, Ore.; F. A. Theis, Simonds-Shields-Theis Grain Co., Kansas City, Mo.; R. C. Woodworth, Cargill, Inc., Minneapolis, Minn.

Mayonnaise

Mayonnaise and Salad Dressing Industry Advisory Committee, George L. Prichard, chairman. Industry members:

T. E. Ryan, Quaker Maid (A&P), New York City, N. Y.; Robert H. Cain, John E. Cain Co., Cambridge, Mass.; Aaron Yohalem, Best Foods, Inc., New York, N. Y.; Jack C. Hoffman, Louis Milani Foods, Inc., Los Angeles, Calif.; Theodore Marks, Recipe Foods, Inc., Baltimore, Md.; Samuel C. Domash, Conway Import Co., Inc., Long Island City, N. Y.; Olen C. Turner, Morton Foods, Dallas, Tex.; James Irwin, H. W. Madison Co., Cleveland, Ohio; C. G. Wright, Kraft Foods Co., Chicago, Ill.

Margarine

Margarine Industry Advisory Committee, George L. Prichard, chairman. Industry members:

Aaron Yohalem, The Best Foods, Inc., New York, N. Y.; N. B. Betzold, Durkee Famous Foods, Cleveland, Ohio; R. I. Hoag, Coldstream Products Co., San Francisco, Calif.; David A. Blanton, Jr., The Blanton Co., St. Louis, Mo.; Lee Carman, Standard Brands, Inc., New York, N. Y.; C. B. McCord, Shedd-Bartush Foods, Inc., Detroit, Mich.; C. G. Wright, Kraft Foods Co., Chicago, Ill.; Robert G. Spears, Jelke Good Luck Products, Lever Bros., New York, N. Y.; L. C. B. Young, Osceola Foods, Inc., Osceola, Ark.; F. J. Curtain, The Capital City Products Co.,

Columbus, Ohio; Harold B. Reed, The Cudahy Packing Co., Omaha, Neb.

— s b d —

MULTIPLE DELIVERIES

Changes in the trading contract to allow for multiple delivery against futures trading in soybean oil meal on the Memphis Merchants Exchange were adopted at a meeting of the board of directors of the Memphis Merchants Exchange Clearing Association Mar. 16.

The new contract becomes effective with the Mar. 1952 and subsequent contracts, trading in which began Apr. 1. This was the first multiple delivery contract to be adopted for soybean products.

The 1950 convention of the American Soybean Association adopted a resolution favoring multiple delivery of soybeans against futures trading on the Chicago Board of Trade "to eliminate the violent fluctuations in the soybean futures market."

"The additional delivery points were added at the request of a number of processors because it was felt that it will have the effect of broadening the use of the market," stated A. A. Williams, executive vice president of the Clearing Association, in announcing the rule changes. Wil-

liams said the move received widespread support from traders.

Delivery points designated for soybean oil meal traded in for future delivery on the Exchange under the new contract are:

Bellevue, Ohio; Bloomington, Ill.; Cedar Rapids, Iowa; Centerville, Iowa; Champaign, Ill.; Chicago, Ill.; Cincinnati, Ohio; Circleville, Ohio; Clinton, Iowa; Decatur, Ill.; Decatur, Ind.; Des Moines, Iowa; Fostoria, Ohio; Frankfort, Ind.

Gibson City, Ill.; Indianapolis, Ind.; Kankakee, Ill.; Lafayette, Ind.; Louisville, Ky.; Marion, Ohio; Owensboro, Ky.; Painesville, Ohio; Pana, Ill.; Peoria, Ill.; Quincy, Ill.; Springfield, Ill.; Taylorville, Ill.; and Waterloo, Iowa.

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USDA FATS SURVEY

The U. S. Department of Agriculture is conducting a brief survey of the fats and oils marketing situation in several Western European countries under provisions of the Research and Marketing Act. Observations are being made by Paul E. Quintus, head of the fats and oils division, Office of Foreign Agricultural Relations, who has been in Europe since Jan. 1.



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Drop Planned in Soy Acres

A total of 13.8 million acres of soybeans planted alone for all purposes in 1951 is indicated by growers' Mar. 1 intentions reports, according to the U. S. Department of Agriculture crop reporting board. This is 6 percent below last year's record acreage. But it is 12 percent above the 1940-49 average acres planted alone for all purposes.

The reduced acreage of soybeans is the result of the back-to-corn trend this year in the Cornbelt. The North Central area indicates a million acre decline from last year compared with a slight gain in the other producing areas. A drop of 12 percent in Illinois and a 20 percent decrease in Iowa account for nearly 900,000 acres of this decline from last year. Smaller reductions are indicated for Ohio, Indiana and Minnesota, while Missouri shows no change from last year. Nebraska and Kansas, which had exceptionally high yields in 1950, indicate increased planting this year.

The South Atlantic States indicate an increase of about 8 percent, most of which is accounted for by Virginia and North Carolina, although small acreage gains are reported in South Carolina and Georgia. Florida has been added to the list of States for which soybean estimates are prepared. Although the

acreage in that state is still small it has been increasing for the past few years and is nearly all commercial acreage grown for harvest as beans. The South Central states indicate only a slight increase from 1950.

If about the same proportion of the total acreage of soybeans is harvested for beans as in the last two years the acreage for beans would be about 12.1 million acres.

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TREND TO SOLVENTS

The U. S. Department of Agriculture, through information obtained from the Bureau of the Census, has reported the quantity of soybeans processed by each of the three methods—screw press, solvent extraction, and hydraulic press—during the crop year, Oct. 1, 1949, to Sept. 30, 1950, along with similar data for earlier years.

The report prepared by the Production and Marketing Administration, shows that of the 195.5 million bushels of soybeans processed during the crop year 1949-50, 109.3 million or almost 56 percent were by the solvent extraction method. Processings by the screw press process accounted for 80.5 million bushels or approximately 41 percent of the total. Only about 5.7 million bushels or 3 percent of the total were by the hydraulic press method.

The crude oil yield per bushel of soybeans processed during 1949-50 was approximately 9.9 pounds per bushel as compared with 9.8 pounds

obtained in 1949-50. The oil yield of 10.7 pounds per bushel from the solvent extraction process remained well above yields obtained from other methods. Oil yield information by method of processing is not available for years prior to 1947-48.

Department officials pointed out that "soybeans crushed" and "crude oil produced" for most years differ somewhat from figures previously reported by the Bureau of the Census.

— s b d —

PLAN CO-OP MEETING

A conference for cooperative soybean oil mill operators will be held in Peoria May 7 to 9, R. T. Milner, director of the Northern Regional Research Laboratory at Peoria, has announced.

The conference will open at 2 p. m. central daylight saving time Monday, May 7, and will close Wednesday noon, May 9, Milner said. The conference is being arranged by the Laboratory and the Cooperative Research and Service Division of Farm Credit Administration, Washington, D. C.

In order to accommodate the group attendance will be limited to three representatives from each cooperative soybean oil, one representative from each district bank for cooperatives concerned with financing cooperative soybean oil mills and a limited number of representatives from the Northern Regional Research Laboratory and from the Washington office of the U. S. Department of Agriculture.

SOYBEANS

State	Acreage planted*			
	Average 1940-49	1950	Indicated 1951	1951 as percent of 1950
Thousand acres				
Percent				
N. Y.	15	7	7	100
N. J.	33	29	32	110
Pa.	78	44	41	93
Ohio	1,105	1,100	1,078	98
Ind.	1,593	1,702	1,634	96
Ill.	3,584	4,091	3,600	88
Mich.	139	122	110	90
Wis.	104	70	66	94
Minn.	539	1,101	1,013	92
Iowa	1,738	1,960	1,568	80
Mo.	760	1,175	1,175	100
N. Dak.	118	44	40	90
S. Dak.	22	68	51	75
Nebr.	34	50	55	110
Kans.	213	370	451	122
Del.	60	65	61	94
Md.	80	80	78	98
Va.	156	176	202	115
W. Va.	34	16	13	81
N. C.	388	418	439	105
S. C.	45	82	100	122
Ga.	84	92	97	105
Fla.	194	196	9	9
Ky.	212	234	230	107
Tenn.	253	195	205	105
Miss.	318	438	482	110
Ark.	319	629	566	90
La.	118	111	114	103
Okl.	21	29	42	145
Tex.	18	10	3	33
U. S.	12,266	14,704	13,772	93.7

* Grown alone for all purposes.

† Short-time average.

Soybeans: Quantities Crushed by Types of Processing Equipment, Crop years 1945-49: Oil Produced and Oil Yield per Bu. for Each Process, Crops Years 1947, 1948, and 1949

Soybeans Crushed							
Oct. 1-Sept. 30 Crop Years	Screw Press Process		Solvent Extraction		Hydraulic Press Process		Total
	1,000 bu.	Percent of Total	1,000 bu.	Percent of Total	1,000 bu.	Percent of Total	1,000 bu.
1945-46	102,442	64.2	44,907	28.2	12,111	7.6	159,460
1946-47	108,744	63.9	45,224	26.6	16,271	9.5	170,239
1947-48	88,233	54.4	61,000	37.6	12,933	8.0	162,166
1948-49	101,535	55.3	72,773	39.6	9,351	5.1	183,659
1949-50	80,546	41.2	109,258	55.9	5,729	2.9	195,533
Crude Oil Produced							
	1,000 lbs.		1,000 lbs.		1,000 lbs.		1,000 lbs.
	Percent of Total		Percent of Total		Percent of Total		Percent of Total
1947-48	782,135	50.7	650,629	42.2	109,362	7.1	1,542,126
1948-49	929,778	51.4	795,964	44.1	81,111	4.5	1,806,853
1949-50	721,976	37.2	1,172,491	60.3	48,021	2.5	1,942,488
Oil Yield Per Bushel							
	Pounds		Pounds		Pounds		Pounds (Average for crop)
	Percent of Total		Percent of Total		Percent of Total		Percent of Total
1947-48	8.86	10.67	8.46	9.51			
1948-49	9.16	10.94	8.67	9.84			
1949-50	8.96	10.73	8.38	9.53			

Compiled from data collected by the Bureau of the Census.

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APRIL, 1951

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PUBLICATIONS

Little Vitamin-B in Soybeans

Soybeans are not outstanding as a source of the B-vitamins as compared with other feeds and foods, states the University of Illinois Experiment Station in its annual reports for 1947-48. A possible exception is thiamine, the one B vitamin largely destroyed by the heat treatment necessary to prepare soybeans for animal and human consumption, according to the report.

The vitamin content of soybeans and soy products has been actively investigated in many laboratories because of the high value of soybeans as a protein concentrate in animal feeding and the increasing interest in expanding the use of soybeans in human diets.

Samples of 11 varieties of soybeans grown in Illinois have been analyzed for eight of the B vitamins. Later their content of folic acid and biotin will also be determined. Varietal differences seem small, so only averages of the 11 varieties are given in the table. They are ex-

pressed in micrograms per gram of air-dried sample, equal to parts per million.

PROGRESS IN SOLVING FARM PROBLEMS OF ILLINOIS. Report for 1947-48. University of Illinois Agricultural Experiment Station, Urbana, Illinois.

Printing Inks

Soybean oil is the "fair-haired boy" of the present fats and oils markets. With ample supplies now available it should be quite attractive to the printing ink maker.

With an iodine value of 135 it does not dry in a thin film nearly as well as does linseed oil.

The most obvious way to improve a material deficient in some quality is to admix it with another possessing to a marked degree the quality in which the first is deficient. In the case of soybean oil, the obvious remedy for its poor-drying qualities is to blend it with chinawood oil, one of the best of all drying oils. Such a mixture dries well, but the films become cloudy or "gas-checked." As a result, heat-treatment is necessary.

But in heating, the wood-oil polymerizes and the combination becomes a viscous product suitable only for

varnishes. The varnishes, however, are not suitable for printing inks because of their extremely high viscosity.

To overcome this, chemical methods of combining tung and soybean oil homogeneously have been devised. It has been found possible by special inter-esterification procedures to produce a low viscosity combination that dries fully as well as linseed. Manufactured by Archer-Daniels-Midland Co., the product is sold as "Tung Soy 65-1."

A REVIEW OF THE NEWER DRYING OILS. By R. S. Mathews, Archer-Daniels-Midland Co., Minneapolis, Minn. American Ink Maker, 254 W. 31st St., New York City, N. Y. Jan. 1951.

Date of Planting

Effect of date of planting on agronomic and seed characteristics of soybean varieties has been tested in two U. S. Department of Agriculture experiments.

The first test was made on five varieties planted at Ames, Iowa, on May 1 and four succeeding dates 11 days apart during two years. Varieties used were Richland, Mukden, Mandell, Illini and Dunfield.

The second test was made on five varieties planted on the same dates as the first, but for three successive years, and at Urbana, Ill., and Lafayette, Ind., as well as Ames, Mandarin, Richland, Mukden, Dunfield and Boone were the varieties used in the second test.

The following attributes were studied: maturity date, lodging, height, seed yield, seed size, percent of protein and oil and iodine number of oil.

Maturity date was retarded about one day for each three days' delay in planting, but the degree of retardation fluctuated with the year. And maturity of early varieties was retarded more than that of late varieties by later planting.

Lodging was not appreciably affected by date of planting. This was true of all varieties.

Maximum height was attained at the second date of planting and diminished with successively later dates of planting. Height of late varieties was decreased relatively more than that of early varieties at the later planting dates.

Considering all varieties, progressively lower yields were obtained at dates of planting later than May 1. However, varietal response to time of planting differed. The yield of

Micrograms per gram of air-dried sample

Thiamine	15.3
Riboflavin	3.3
Nicotinic acid	12.7
Pantothenic acid	16.8
Pyridoxine	10.9
Choline	3,100
Inositol	2,530
Para-aminobenzoic acid	.73

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the earliest variety did not differ significantly at the various planting dates. But yields of the latest variety decreased progressively with delayed planting.

Protein content of the seed was not affected by date of planting. The varieties differed appreciably in protein content, but date of planting made no difference.

Oil content of the seed, considering all varieties, was decreased slightly by delayed planting, but such decrease was not consistent among all varieties. Oil content of relatively late varieties was decreased more severely by delayed planting than was that of the earlier varieties. Oil content varied with years and locations.

Iodine number of the oil of all varieties was materially increased by delayed planting. There was little difference in this respect between varieties.

VARIABILITY OF AGRONOMIC AND SEED COMPOSITION CHARACTERS IN SOYBEANS, AS INFLUENCED BY VARIETY AND TIME OF PLANTING. By Martin G. Weiss, principal agronomist, C. R. Weber, agent, L. F. Williams and A. H. Probst, associate agronomists, division of forage crops and diseases, Bureau of Plant Industry, Soils and Agricultural Engineering, Agricultural Research Administration, Technical Bulletin No. 1017, Sept. 1950, U. S. Department of Agriculture, Washington 25, D. C.

B-12 for Turkeys

An experiment with Beltsville White turkey poults demonstrates that vitamin B₁₂ alone cannot adequately supplement a poult starting ration containing no animal protein and with soybean oil meal as the primary source of protein.

When crude vitamin B₁₂ concentrates were added, only small insignificant increases in weight were noted, but when 5 percent dried whey and 5 percent dried brewers' yeast or the yeast separately were added, the increases were significant. The addition of 5 percent crab meal or 5 percent menhaden fish meal caused still greater growth.

It is believed that these results show that the young poult requires an unidentified factor or factors, not contained in adequate quantities in basal diets containing all the known factors. Dried brewers' yeast, menhaden fish meal, and crab meal are considered good sources of this factor or factors.

FURTHER EVIDENCE FOR AN UNIDENTIFIED GROWTH FACTOR REQUIRED BY THE POULT. by G. F. Combs and C. S. Shaffner, University of Maryland, College Park, Md. Poultry Science, 29 (4):623-624, July 1950.

Feeding Corn Cobs

Interesting results involving the use of corn cobs as the source of roughage for steers were obtained in two experiments by the department of animal husbandry of Purdue University during the 1949-1950 winter.

In one trial steers were wintered on corn cob rations formulated with various protein materials. It was shown that steers will grow satisfactorily if their ration of cobs is fortified with a protein supplement, molasses, minerals and vitamin A.

PURDUE UNIVERSITY TESTS ROUGHAGE RATIONS FOR

STEERS. Agricultural News Letter, Jan.-Feb. 1951. E. I. Du Pont de Nemours & Co., Wilmington 98, Del.

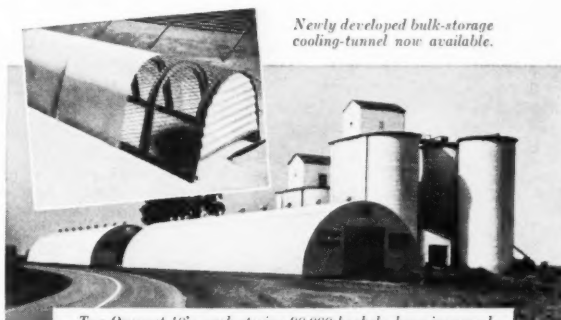
Miscellaneous

FOLLOW GOOD MAINTENANCE FOR EXTRA PROFITS. Extension Bulletin, Armco Steel Corp., Middletown, Ohio.

Primarily designed to assist county agents in supplying helpful information on the maintenance and repair of farm buildings and equipment including machinery and barnyard equipment.

THE CARE AND USE OF SHEET METAL ON THE FARM. American Rolling Mill Co., Middletown, Ohio.

HOW TO PRODUCE HIGH-PROTEIN HAY. Revised edition. Bulletin by J. I. Case Co., Inc., Racine, Wis.



Newly developed bulk-storage cooling-tunnel now available.

Two Quonset 50's, each storing 90,000 bushels, have increased volume and profits for Silver Brothers of Myra Station, Ill.

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GRITS and FLAKES...

FROM THE WORLD OF SOY

♦ D. R. Mehl has been appointed division purchasing agent of the chemical plants division, Blaw-Knox Co., Pittsburgh, Pa. He has been with Blaw-Knox since 1946. Other advancements in the purchasing department include the promotion of Harry J. Lyle to assistant division purchasing agent, and R. F. Keenan to head buyer.

♦ Hydro-Controls Co., Milwaukee, Wis., announces the appointment of Seed-buro Equipment Co., Chicago 6, Ill., as exclusive distributor for its "Hytrol Folding Conveyors." The conveyor was designed for rapid handling of bags, boxes, bundles, bales and cartons. The unit is popular because of its compact size, light weight and mobility.

♦ Stockholders of Minneapolis-Moline Co. and of B. F. Avery & Sons Co., Louisville, Ky., approved a merger of the two companies at special meetings held Feb. 27. The merger became effective Mar. 1. Founded in 1825, Avery is one of the oldest firms in the industry. It manufactures two sizes of farm tractors and a line of attached implements.

♦ David W. Martin has been promoted to head all poultry and broiler feed operations of the feed and soy division, Pillsbury Mills, Inc., Clinton, Iowa. He has been with Pillsbury 16 years.

♦ "Power for Production," a 40-page catalog covering the Ford Tractor and Dearborn line of farm equipment, has been published by Dearborn Motors, Birmingham, Mich. It is being distributed through Ford tractor dealers.

♦ Link-Belt Co. announces that Richard Moyer, general superintendent at the Pershing Road plant in Chicago, has been appointed general manager of the north central division, with headquarters at the company's plant in Minneapolis, Minn. He succeeds Leslie J. Carlson, who has accepted a governmental position in Washington, D. C.

♦ Ground has been broken for a 4-million-dollar soybean oil processing plant on a 78-acre tract near Jacksonville, Ill. Mrs. Tucker's Foods, Inc., will operate the plant. The firm has another vegetable oils plant at Sherman, Tex.

♦ Don J. Pace has resigned as chief accountant for Wood Bros., Inc., Des Moines, Iowa, to become treasurer of Iowa Soya Co., soybean processing firm at Redfield, Iowa. He has been with Wood Bros. four years.

♦ Stanley E. Bovim has been named manager of a new branch office of Allis-Chalmers' general machinery division in Peoria, Ill. He has been with Allis-Chalmers since 1923. F. D. McGuire, Jr., has been transferred from Chicago to the new Peoria branch as sales representative.

NEW STALEY POSTS



PAUL R. RAY

A. E. Staley Manufacturing Co., Decatur, Ill., has announced the creation of two top level executive positions.

Luther S. Roehm, 40, formerly assistant general sales manager of the Dow Chemical Co., Midland, Mich., has been named manager of the corn division.

Paul R. Ray, 33, formerly vice president and milling division manager of Doughboy Industries, Inc., New Richmond, Wis., has been named manager of the soybean division.

The new corn and soybean division managers will work under the direct supervision of E. K. Scheiter, executive vice president. They joined the company about Apr. 1.

As manager of the soybean division, Ray will have charge of the merchandising and development ac-

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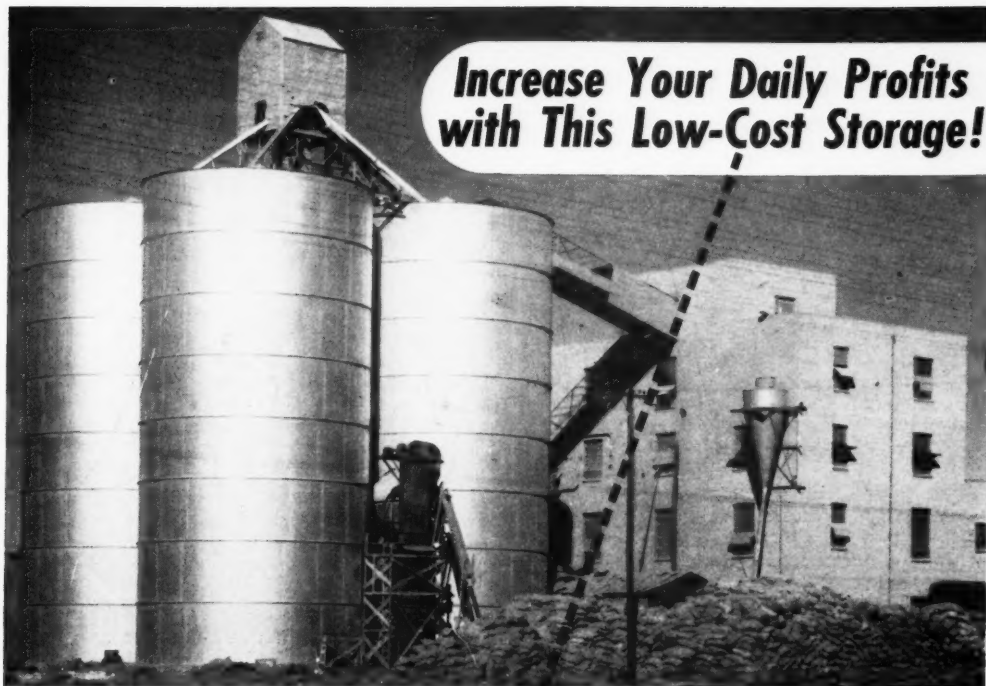
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COLUMBIAN Storage Tanks are FIRE-PROOF . . . WEATHER-PROOF . . . RODENT-PROOF. They never crack or crumble . . . no caulking or patching is required. Actual service tests as long as 30 years prove them ideal for safe, efficient storage and handling of all small grains — wheat, corn, oats, barley, soya beans, flax, cotton seeds, peanuts, rice, coffee beans, etc. Hundreds are now in use by all kinds of feed processors.

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COLUMBIAN STEEL TANK CO.

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◆ G. A. Kent, president of the Grain Processing Corp., Muscatine, Iowa, and vice president of Muscatine Processing Corp., soybean processors of the same city, has been named to the National Distilling Industry Advisory Committee by Secretary of Agriculture Charles F. Brannan.

◆ Texas friends of A. L. Ward, for 25 years educational director of the National Cottonseed Products Association, are having a portrait of him painted to be presented to the A. & M. College of Texas. The portrait will be unveiled at the annual convention of the Texas Cottonseed Crushers Association at Houston June 10-12.

◆ "Soybeans to Salad Oil," by James C. Stowell in a recent issue of *Archer*, Archer-Daniels-Midland Co. publication, describes the two edible oils being produced at the A-D-M oil refinery at Decatur, Ill.

◆ Dr. R. M. Bethke, vice president of Ralston Purina Co., St. Louis, Mo., has received an honorary membership in the American Dehydrators Association for 1951 for "exceptional performance and service" to the industry.

◆ A new bacitracin antibiotic feed supplement, "Baciferm," is now being produced by the Commercial Solvents Corp., New York City, at its plant in Peoria, Ill., officials of the firm have announced. The firm will manufacture "Proferm," a vitamin B-12 supplement, at another unit of the plant in the near future.

◆ Chemical plants division of Blaw-Knox Co., Pittsburgh, Pa., has announced the formation of a resins and plastics department, and the appointment of Arne Olson as manager of this unit. He has been with Blaw-Knox since 1930 and has won distinction as a specialist on synthetic resins. The new department will design and construct complete plants for the manufacture of synthetic resins.

◆ Dr. H. H. Mitchell of the Illinois College of Agriculture, Urbana, has received the \$1,000 Morrison award given annually by the American Society of

activities of Staley's soybean plants and oil refinery. He will also supervise the sale of corn feeds. The management group for the soybean division will consist of Mr. Ray; H. T. Morris, manager of the feed department; M. J. Longbons, manager of the oil department; and Thomas Longbons, manager of the Painesville plant.

Ray has had extensive experience in the milling industry. He joined Doughboy Industries in 1940 after three years with Cargill, Inc.

— s b d —

DICKINSONS DISSOLVE

Dickinson Bros., Chicago, Ill., fats and oils and feed ingredients brokerage firm, dissolved Mar. 16, with the partners entering other lines of business. H. J. Wiswell, vice president, is in charge of liquidating existing contracts. The liquidation office is 155 Sansome St., San Francisco, Calif.

James L. Dickinson, president, plans to enter the feed manufacturing business, and William L. Dickinson, a vice president, will join the Vegetable Oils Products Co., Wilmington, Calif.

Wiswell has joined Paul X. Smith Co. of San Francisco.

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dries up to
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And at full rated capacity, using **four times** as much air, in proportion to grain volume handled, as is possible with any other type drier. Factory prefabricated; heavy steel construction throughout. Automatic controls permit economical, dependable operation in any weather. Uses Natural Gas, Butane, Propane or Oil.

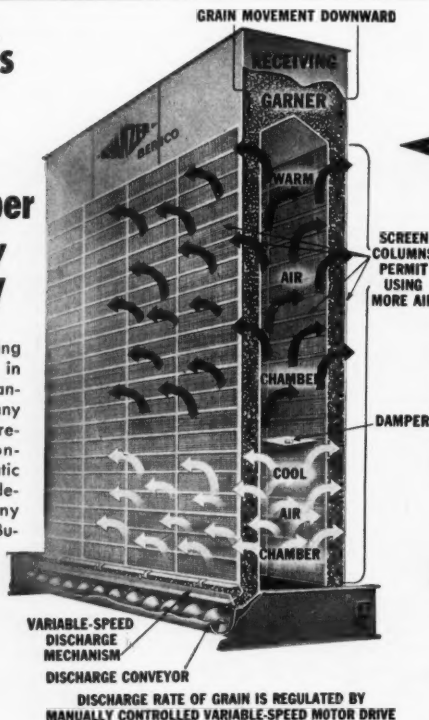


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- Tight construction provides for more effective fumigation with less fumigants

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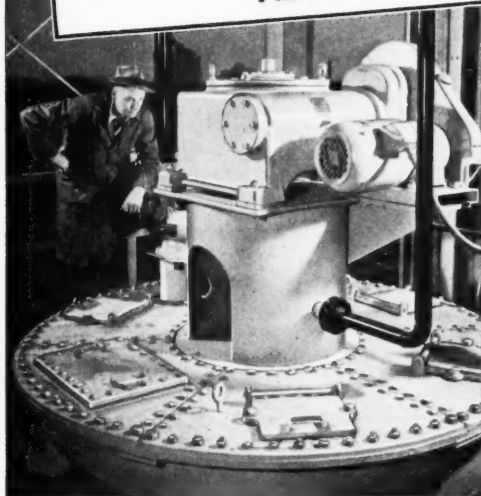
Minneapolis, Minn.

◆ A committee headed by W. L. Burlison, agronomy department head at the University of Illinois College of Agriculture is collecting source material for a history of the college.

The two active partners of John J. Woods & Sons are John J. Woods, Jr., and James N. Woods.

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WASHINGTON DIGEST

SOYBEAN ORDER. The Office of Price Administration plans later on to issue a revised and "permanent" price order for soybeans.

The main object of a permanent order is to clarify points not spelled out in the present one, and to correct inequities. The revised order is not expected to change the basic price schedule for soybeans.

It will establish a price ceiling, officials say, for soybeans going into export. It will also increase the trucking rate for long hauls to market.

The present order allows only 3 cents a bushel for trucking. This is recognized by officials as too low under many market situations where the 3 cents doesn't cover actual costs.

Timing on the revised order is uncertain. Officials are busy now "getting their house in order" so as to be ready with "tailored" price ceilings if and when other grain prices reach ceiling level.

Officials hope to be in a position soon to slap on controls as soon as the price at terminal markets hits the ceiling level. The object is to avoid rollbacks, and to avoid the need for hasty action on price orders such as occurred on soybeans.

Flaxseed is in this category. A ceiling price a little over \$5 a bushel, basis Minneapolis, is expected. The plan on flaxseed, and other grains, is to let prices have free play as long as they stay below the planned ceiling level, but to put ceilings on as soon as they reach that level.

There is no inclination on the part of price officials to change soybean ceiling prices. There will be no pressure from the Department of Agri-

culture for a higher ceiling as long as there appears to be a harvest of about 12 million acres, as indicated by the March report on intentions to plant.

BEAN ACREAGE. USDA officials are fairly well satisfied with the indicated acreage of soybeans for harvest this year.

Based on adjusted average yields for the last five years, the prospective 1951 harvest of soybeans would be 243,300,000 bushels—44 million bushels below 1950 production. The bushelage goal for this year was 273 million.

The report on farmers intentions to plant made March 19 indicated an acreage for all purposes of 13,772,000. The acreage indicated for harvest is 12,100,000, based on the average percentages harvested for beans by states during the last two years.

This is still nearly 900,000 acres below the goal for harvested acreage of 13,013,000. It's nearly 1,200,000 below the 1950 harvest.

Officials admit the 12.1 million acres for harvest is still a long way from being "in the bag." Their main concern now is to maintain acreage at near that figure.

Crop Reporting Board officials say that in most years the relationship between March intentions and actual plantings of soybeans is fairly close—more so than for either corn or oats.

GRADES. Production and Marketing Administration grain officials hope to announce a decision on the proposed grading standards for soybeans by mid-April. There was no

By **PORTER M. HEDGE**

Washington Correspondent for
The Soybean Digest

reliable indication early this month what the ruling would be.

The proposed changes would reduce the permissible moisture content for No. 2 soybeans from 14 to 13 percent, and lower the amount of foreign material permitted from 3 to 2 percent, with standards for other grades to correspond.

WAREHOUSE LOANS. Settlement terms for loans on grain crops stored in warehouses will be made on a new basis when they come due this spring.

Commodity Credit Corporation will take over any unredeemed warehouse loans on the final date for repayment, which is May 31 for soybeans.

Producers will be paid either the loan value plus interest and carrying charges, or the market value at the close of the market on May 31 in the case of soybeans. Growers who haven't redeemed loans as of that date automatically will receive the excess over the loan value plus charges.

This will apply only to warehouse loans. A little more than 6 million bushels of soybeans were under loan in warehouses at the end of January. Balance of the nearly 14½ million bushels under price support were stored on farms or under purchase agreements.

Export of a little more than 6 million bushels of soybeans has been scheduled for the March-April pe-

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riod, or 154,000 tons. Most of the soybeans—nearly 4.4 million bushels—are allocated to the Pacific area.

FIGHT ON PARITY. A hot policy fight is looming over changes in the Defense Production Act when Congress gets around to its renewal. The present act, authorizes price control, comes up for renewal June 30.

At the least, price officials want a compromise on the parity features of the law, which says that no farm ceilings can be less than parity. Subsidies will be recommended, but are not likely to pass.

The Farm Bloc is in no mood to back down on the parity concept. Southerners are hopping mad over the cotton ceiling. The planned rollback in beef cattle prices won't soften the attitude of Western congressmen toward price officials.

Secretary of Agriculture Brannan is caught in the middle. He supports parity prices for farmers if there have to be ceilings. At the same time, he will be forced to go along with the Administration's final recommendations on price levels as a member of the team.

Opposition groups are more confident now. They feel they have enough strength at least to weaken the parity price standards for ceiling purposes. They are banking on public opinion for support, especially housewives and most of the big daily press.

At this stage, the outlook boils down to this: Any really big changes in the price law will be hard to come by. Emotional issues will count as much as factual data. Course of the war in Korea will be a big factor.

Dozens of proposals are being drafted for changes, some to tighten up the law; others to loosen it. As of now, it appears that chances of loosening up the law are about as great as those for making it tighter.

One proposal that may be acted on is to establish ceilings at parity at the beginning of the marketing year, and leave them there for a whole season. There is precedent for this in the price support programs, and the Farm Bloc might approve.

The soybean price ceiling level is not likely to be affected, at least for 1951, by any foreseeable changes in the law. Further rollbacks are not to be expected in a commodity already under price control.

OIL ROLLBACK. Rollbacks on manufacturer's ceiling prices for vegetable shortening and salad oils were announced Mar. 7 by Michael V. DiSalle, director of the Office of Price Stabilization.

The rollbacks were made possible by a rollback in cottonseed, corn and soybean oils ordered by OPS Feb. 14. "The order eliminates the possibility of price increases on shortening and salad oils to the housewife," DiSalle said.

"The ceilings now in effect on crude oils and finished oil products will be reviewed by OPS in the late summer when new crop conditions can be visualized," according to the OPS director.

FOR EXPORT. The U. S. Department of Agriculture has an-

nounced that 126 million bushels of grain and soybeans have been programmed for export in March and April.

Practically the entire quantity programmed for March and April has been sold by exporters or committed by Commodity Credit Corporation. About 65 percent of the total will be exported commercially.

The March-April total includes over 6 million bushels of soybeans. Most of the soybeans will go to countries in the Pacific. Small amounts will also go to France, Israel and Norway.

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FORT WORTH screw conveyor and vertical screw elevators provide the most compact means of conveying or elevating bulk materials, such as grains or other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to seventy feet, depending on the nature of the product. Initial installation cost is low. A minimum amount of upkeep is required.

This may be the answer to your conveying problem. We will be pleased to advise you.

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BETTER STANDS AND HIGHER YIELDS OF SOYBEANS

Even bad weather won't stop your crop from getting off to a good start if you plant treated seed. And seed injured by frost or during combining has a better chance if it's treated with Du Pont "Arasan" seed disinfectant.

That's because "Arasan" protects seed against seed rot, mildew, blue stain and other diseases. Experiment stations prove that "Arasan" increases stands—in some cases up to 100%!

Regular use of "Arasan" over a lifetime would cost you no more than just

one ruined crop because you pay only a few cents per acre to get the protection of "Arasan" every year.

For best results, treat the seed first—then inoculate just before you plant. "Arasan" protects seed from disease organisms and the inoculant helps the root system. Buy treated seed, or if you do the job yourself, follow directions on the "Arasan" package. For small grains and cotton use Du Pont "Ceresan" seed disinfectant. Du Pont, Semesan Section, Wilmington 98, Delaware.

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--- MARKET STREET ---

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here. Rate: 5c per word per issue. Minimum insertion \$1.00.

USED VEGETABLE OIL FILTER
presses 3-30" Plate and Frame, 3-24" Plate and Frame, open delivery. Excellent used six high 85" French Cookers or Toasters, 30 H.P. motors—\$3,500.00 each. Pittcock and Associates, Glen Riddle, Pa.

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mill equipment, Hydraulic, Screw-Presses, Expellers, Cookers, Toasters, various size Filter presses. If used in Oil mill we have it. V. A. Lessor & Company, P.O. Box No. 108, Phone Market-3352, Fort Worth, Texas.

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feet dead storage, 100,000 bushel grain or seed storage, wooden bins, concrete floors, sprinkler system, railroad switch, track scale, suitable for feed, seed, soybean processing plant. Address inquiry, Box 120, Louisville 1, Ky.

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in good working condition. For quick sale will entertain offer one-half price of new press. This press located and may be inspected at 7020 S. Broadway, St. Louis, Mo. Address inquiries to E. E. Hoffman, The Kansas Milling Co., Wichita 2, Kans.

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ARKANSAS

Burdette—Burdette Plantation, 5,000 bu. state certified Dorchsoy No. 2.
Burdette—G. A. Hale Seed Farm, 2,000 bu. certified Hale Ogden 2.
Stuttgart—D. P. Oaksmith, Pioneer Seed Farms, Inc., 1500 bu. certified Dorchsoy No. 31, 5,000 bu. uncertified Ogden, 5,000 bu. uncertified Ralston, 5,000 bu. uncertified Volstate, 10,000 bu. uncertified Tanner.

ILLINOIS

Manhattan—Earl Keniston, Rt. 1, 800 bu. certified Adams.
Mattoon—Leslie Daily, Rt. 1, 500 bu. certified Adams.
Pontiac—Pike Hybrid Corn Co., Box 371, certified and uncertified Hawkeye, Lincoln, Adams, Wabash, Monroe and Blackhawk, in truck or car lots, bagged or bulk, shipped to buyers' specifications.
San Jose—Kelly Seed Co., 5,000 bu. certified Hawkeye, 4,000 bu. uncertified Hawkeye, 3,500 bu. certified Lincoln, 4,000 bu. uncertified Lincoln, 600 bu. certified Adams, 800 bu. certified Wabash.
Virginia—C. C. Taylor, Rt. 2, 600 bu. certified Adams.

INDIANA

Evansville—J. A. McCarty Seed Co., 526 N.W. Fourth St., CL or TL certified and uncertified Wabash, CL or TL uncertified Lincoln, CL or TL uncertified Kingwa.
Fort Wayne—O. L. Bryant, Rt. 4, 900 bu. foundation certified Hawkeye.
Remington—Chester E. Biddle, 500 bu. certified Lincoln, 1500 bu. certified Hawkeye.
Remington—Silver Lane Farms, 1,000 bu. certified Earlyana, 500 bu. certified Richland, 750 bu. certified Hawkeye, 1,000 bu. certified Lincoln.
Valparaiso — Wyckoff Hybrid Corn Co., Rt. 3, 1,500 bu. certified Hawkeye,

300 bu. certified Richland, 300 bu. uncertified Earlyana.
Windfall—Mitchell Farms, 2,000 bu. Hawkeye, 2,000 bu. Lincoln and 1,000 bu. Wabash, all certified and foundation seed.

IOWA

Belle Plaine—Fred McCulloch, 350 bu. certified Adams, 94% germination, \$4.50 per bu.
Davenport—Norman Frye, Rt. 4, 2,000 bu. or more Adams, germination 93%.
Duncombe—W. K. Powers, Rt. 1, 400 bu. certified Adams.
Remsen—Frank Lenertz, Rt. 3, 1,050 bu. certified Adams, 300 bu. certified Hawkeye, 350 bu. certified Lincoln.
Sully—Ed Schnell, Rt. 1, 300 bu. certified Adams.

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Britton—Mueller Bros., Rt. 2, 450 bu. certified Hawkeye.

MINNESOTA

Bird Island—A. A. Ziller, 2,000 bu. certified Monroe, 200 bu. Kabott, 500 bu. Capitol.
Minneapolis—Cargill, Inc., Seed Department, P. O. Box 64, all Midwestern approved soybean varieties.

MISSOURI

Essex—Essex Grain Co., 7,000 bu. certified Wabash.
Essex—Trailback Plantation, Rt. 1, 6,000 bu. certified Wabash, 12,000 bu. certified S-100, 25,000 bu. certified Ogden.
Hamden—M. E. Clayburg, 1200 bu. certified Wabash, germination 91% or better, purity 99.85%.

Kirkville—L. P. Anest, 114 E. Washington St., 1,600 bu. certified Wabash.
Palmyra — Carl Gillespie, 3,000 bu. certified Wabash.

St. Louis—Valley Farms Co., 314 Merchants Exchange, 1,000 bu. certified Wabash, 500 bu. certified Adams, 500 bu. certified Rickard Korean, 500 bu. uncertified Cypress No. 1.
Villa Ridge—Clarence H. Schroeder, 450 bu. state certified Wabash.

OHIO

Greenwich—W. W. Briggs, 1,000 bu. Monroe.
Tiffin—Curtis Keller, Rt. 1, 280 bu. Ohio Certified Monroe.

— r d —

PILLSBURY PURCHASE

Pillsbury Mills, Inc., Minneapolis, Minn., has announced the purchase of Ballard & Ballard, Louisville, Ky., milling firm. It is understood the transaction involved between 12 and 15 million dollars, according to the Chicago Journal of Commerce.

Ballard & Ballard manufactures and distributes flour, feeds and specialty products. Its headquarters and principal plants are at Louisville, with a feed plant at Nashville. It does an annual business of more than 30 million dollars and has a payroll of over 1,000 employees.

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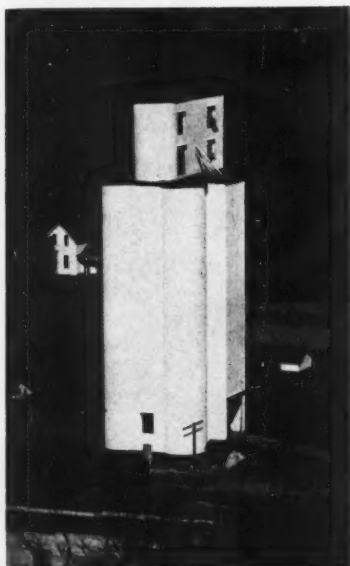
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OMAHA

IN THE MARKETS

Soybean Meal Market Down

The market for soybean oil meal was a declining one in March. At no time did the price of meal approach the government ceiling, and the net decline for bulk 41 percent meal was \$10 for the month.

Some processing plants were reported shut down because of slow demand and the lower price trend. However, total production continued good. The boxcar shortage was a continued factor in the market.

Soybeans and soybean oil sold at ceilings all month, with some of the more distant futures being under ceilings. Bids to the country for soybeans were at full ceiling price, and at times processors were anxious buyers.

Spain was reported to be in the market for fair quantities of soybean oil. But the market was thin due to slow sales for margarine and vegetable shortening. Shortening shipments in mid-March were at the lowest ebb in four years, according to reports by the Institute of Shortening and Edible Oils, Inc. Processors were reported to be withholding soybean oil because of the sloppy meal market and the slow demand for refining products.

The U. S. Department of Agriculture has announced a program of export of over 6 million bushels of soybeans during March and April, largely to Japan.

March No. 2 soybeans Chicago traded at the \$3.33 ceiling all month until the close of trading March 22. May soybeans sold off a cent on Mar. 3 and 19.

Crude soybean oil in tankcars sold at 20 1/2c, the ceiling, all month.

Bulk soybean oil meal, 41% basis Decatur, opened at \$70.50 and closed at \$61.50. High was \$71 Mar. 5. Low was \$61 Mar. 30.

MEMPHIS SOYBEAN OIL MEAL FUTURES MAR. 31*

Contract 100 tons. May, flat 72.50; July, flat 75.50; Oct., *\$61.50; Dec., *flat 60.35; Jan., *59.50@59.75.

Sales: 4,500 tons.

a-Asked. b-Bid. n-Nominal. s-Sales. *Bulk.

CHICAGO SOYBEAN OIL FUTURES CLOSINGS MAR. 31*

May, 20.50b; July, 20.50b; Sept., 19.95b; Oct., 18.05b-15a; Nov., 17.20b-40a; Dec., 17.05b-09a; Jan., 16.85b-17.00a.

NEW YORK SOYBEAN OIL FUTURES CLOSINGS MAR. 31*

Old contract: April, 20.50b; Nov., 17.25b; Jan. '52, 16.95b; March, 16.75b; May, 16.90b; July and Sept., 16.50b.

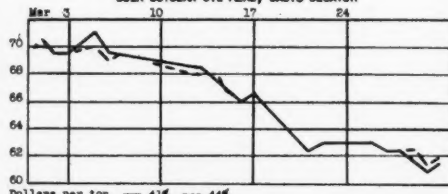
Sales: May, 7; July, 10; Sept., 13; Oct., 8; Dec., 4. Total: 42 contracts.

New contract. Closings: May and July, 20.50b; Oct., 18.10b; Nov., 17.25b; Dec., 17.15b; Jan. '52, 16.95b; March, 16.75b; May, 16.90b; July and Sept., 16.50b.

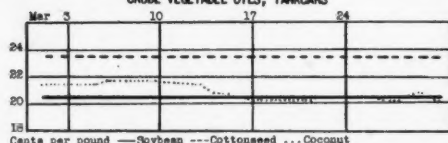
Sales: 2 contracts.

*Reported by Chicago edition Wall Street Journal.

BULK SOYBEAN OIL MEAL, BASIS DECATUR



CRUDE VEGETABLE OILS, TANKCARS



The U. S. Department of Agriculture reported Commodity Credit Corporation made export purchase contracts during the week of Feb. 26-Mar. 2, for the purchase of 15,371,000 pounds of refined, edible soybean oil. Cumulative purchases contracts, Oct. 1 through Mar. 2, total 13,054,000 pounds of crude soybean oil, and 17,275,000 pounds of refined soybean oil.

FUTURES TRADING AND OPEN CONTRACTS IN SOYBEAN OIL MEAL ON MEMPHIS MERCHANTS EXCHANGE CLEARING ASSOCIATION
(As reported by members, in tons)

	Volume of trading	Open Contracts		Volume of trading	Open Contracts
Feb. 28	13,800	184,500	Mar. 16	7,600	196,400
Mar. 1	22,100	187,100	Mar. 17	5,200	199,000
Mar. 2	14,400	185,500	Mar. 19	5,500	198,900
Mar. 3	4,100	185,500	Mar. 20	9,800	198,200
Mar. 5	7,700	183,600	Mar. 21	4,600	199,300
Mar. 6	6,200	183,000	Mar. 22	7,000	200,500
Mar. 7	5,300	182,200	Mar. 24	4,500	199,600
Mar. 8	3,200	182,600	Mar. 26	4,500	198,300
Mar. 9	5,600	181,800	Mar. 27	4,300	199,300
Mar. 10	6,200	182,900	Mar. 28	6,100	200,800
Mar. 12	5,000	183,100	Mar. 29	15,100	198,600
Mar. 13	7,800	185,600			
Mar. 14	10,900	188,800	Total for 25 days reported	197,200	
Mar. 15	10,700	193,100			

● **EXPORTS.** U. S. exports of soybeans and soybean oil in 1950, all in terms of beans, were less than the record volume exported in 1949, reports Office of Foreign Agricultural Relations, U. S. Department of Agriculture. Nevertheless, the United States continued to hold its dominant position as the world's single major source of surplus soybeans and oil.

Exports of soybeans and soybean oil from this country in 1950, in terms of beans, totaled 50.2 million bushels. This was 19 percent less than the 61.9 million bushels (revised), as beans, exported in 1949. However, it was more than nine times the average annual quantity exported in the prewar period 1937-39.

Soybeans and soybean oil, in terms of oil, topped all exports of individual fats and oils in 1950.

Western Europe took about half of the soybeans and more than 85 percent of the soybean oil exported last year. However, Japan and Canada took the largest tonnages of soybeans. Soybean oil, on the other hand, moved in largest volume to Western Germany, Spain, and Italy, with substantial quantities consigned to Austria, the Netherlands, and Cuba.

UNITED STATES: Exports of soybeans and soybean oil, by months, marketing years 1949-50 and 1950-51¹

Marketing year and month	Soybean (Bushels)	Soybean oil (Crude) (Short tons)	Soybean oil (Refined) (Short tons)
1949-50:			
October	1,990,623	1,926	4,339
November	1,617,351	7,477	9,005
December	920,545	10,905	6,109
Sub-total (3 months)	4,528,519	19,408	19,453
January	928,208	15,793	2,011
February	993,739	15,819	2,861
March	1,886,306	10,608	2,734
April	1,611,570	7,062	2,287
May	2,288,135	17,794	2,661
June	163,783	8,120	2,862
July	317,979	6,335	1,005
August	928,265	2,210	1,022
September	192,144	3,287	2,108
Total (12 months)	13,136,648	106,436	39,004
1950-51:			
October	628,476	2,211	8,179
November	4,256,407	4,120	4,898
December	5,616,913	19,712	4,196
Sub-total (3 months)	10,501,796	26,043	17,273
January	2,183,897	6,783	3,572

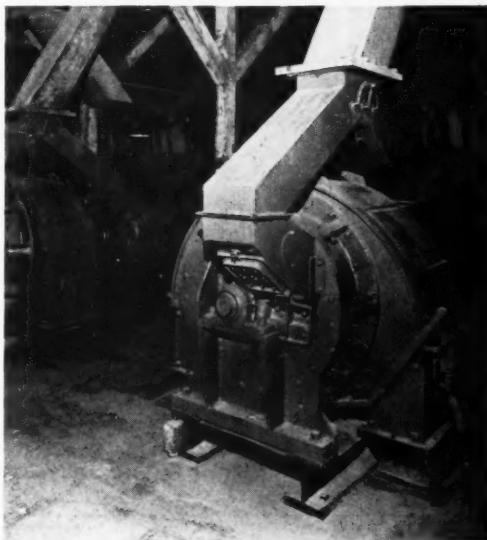
¹Does not include shipments to U.S. territories.

● **SOYBEAN STOCKS.** Production and Marketing Administration's commercial grain stock reports.

	Mar. 6	Mar. 13	Mar. 20	Mar. 27
Atlantic Coast	399	244	206	207
Gulf Coast	656	311	580	612
Northwestern and Upper Lake	1,438	1,472	1,411	1,370
Lower Lake	5,747	5,775	5,755	5,768
East Central	2,997	3,015	3,063	3,010
West Central, Southwestern & Western	2,006	1,935	1,997	1,908
Pacific Coast	7	7	7	7
Total current week	13,243	12,752	13,019	12,917
Total year ago	11,407	11,858	11,075	10,532

APRIL, 1951

Trend of the Times IN SOYBEAN AND COTTON SEED OPERATIONS



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● **PROCESSING OPERATIONS.** Reported by Bureau of Census, Department of Commerce for November, December.
PRIMARY PRODUCTS EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS AND STOCKS, JANUARY 1951—DECEMBER 1950

Products	Production		Shipments and transfers		End of month stocks	
	Jan. 1951	Dec. 1950	Jan. 1951	Dec. 1950	Jan. 31, 1951	Dec. 31, 1950
SOYBEAN:						
Cake & meal†	589,771	*575,979	569,635	*558,148	92,568	*72,432
Lecithin‡	1,873,863	1,548,261	1,790,960	1,391,050	639,565	553,062
Edible soy flour, full fat†	618	419	620	393	188	190
Edible soy flour, other†	5,784	6,277	5,696	5,612	1,651	1,563
Industrial soy flour	2,168	2,526	2,321	2,349	439	592

‡ Revised. * Not shown to avoid disclosure of individual operations.
† Unit of measure in tons. ‡ Unit of measure in pounds.

SOYBEANS: RECEIPTS, CRUSHINGS AND STOCKS AT OIL MILLS, BY STATES, JANUARY 1951—DECEMBER 1950
(Tons of 2,000 pounds)

State	Receipts at mills		Crushed or used		Stocks at mills	
	Jan. 1951	Dec. 1950	Jan. 1951	Dec. 1950	Jan. 31, 1951	Dec. 31, 1950
U. S.	797,805	*619,450	752,238	*740,607	2,360,446	*2,314,879
Arkansas	(§)	9,037	17,070	20,173	108,437	135,129
Illinois	372,754	*223,353	269,100	*269,059	817,762	*714,108
Indiana	65,479	30,999	53,266	53,155	218,244	205,031
Iowa	152,254	*129,991	117,323	*115,589	301,905	*286,974
Kansas	16,811	14,433	18,317	18,299	26,363	27,869
Kentucky	21,570	20,708	20,091	16,525	78,086	76,607
Minnesota	26,309	22,605	25,906	27,926	52,157	51,754
Missouri	18,317	20,068	24,922	27,680	121,037	127,742
Nebraska	6,067	3,757	5,628	5,361	30,567	30,128
N. Carolina	5,401	11,018	14,646	11,427	45,604	54,849
Ohio	79,421	64,491	73,895	70,876	262,507	256,981
Oklahoma	(†)	3,684	5,803	(†)	(†)	4,939
Texas	1,298	(†)	3,375	(†)	14,414	16,689
All other	40,846	65,306	102,698	95,077	283,363	346,089

* Revised. † Receipts exceeded by reshipments of beans previously received and held in the State. U.S. receipts are on a net basis, excluding transfers between mills. ‡ Included in "All other" to avoid disclosure of individual operations.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, JANUARY 1951—DECEMBER 1950

State	Crude oil (thousand pounds)		Cake and meal (tons)	
	Production	Stocks	Production	Stocks
	Jan. 1951	Dec. 1950	Jan. 31, 1951	Dec. 31, 1950
U. S.	240,745	*235,609	43,477	*42,220
Arkansas	4,971	6,042	768	689
Illinois	90,997	*90,538	11,821	*10,701
Indiana	17,419	17,269	2,532	2,970
Iowa	37,011	*37,019	7,532	*10,919
Kansas	5,857	5,754	1,332	951
Kentucky	6,731	5,611	780	752
Minnesota	8,103	8,525	2,326	1,784
Missouri	7,452	8,024	1,697	1,611
Nebraska	1,705	1,585	431	369
N. Car.	4,046	3,029	1,010	836
Ohio	23,201	22,263	3,574	3,727
Oklahoma	1,706	2,671	191	531
Texas	917	(1)	475	(1)
All other	30,629	27,279	8,608	6,380

* Revised. (1) Included in "All other" to avoid disclosure of individual operations.
Prepared by Bureau of the Census, Industry Division, Chemicals and Wood Products Section.

● **FACTORY USE SOYBEAN OIL.** Factory production of crude soybean oil in January totaled 240,745,000 lbs. compared with 235,609,000 lbs. in December, reports Bureau of the Census.

Factory production of refined soybean oil in January was 201,298,000 lbs. compared with 163,893,000 lbs. in December.

Factory consumption of crude soybean oil in January was 214,987,000 lbs.; in December 176,310,000 lbs. Consumption of refined soybean oil in January was 184,543,000 lbs.; in December 160,038,000 lbs.

Factory and warehouse stocks of crude soybean oil Jan. 31 were 113,499,000 lbs. Dec. 31 stocks totaled

SOYBEAN DIGEST

99,328,000 lbs. Stocks of refined soybean oil totaled 65,175,000 lbs. Jan. 31; 54,237,000 lbs. Dec. 31.

● **SOYBEAN INSPECTIONS.** Inspected receipts of soybeans dropped sharply in November to a total of 20,998 cars compared with 39,130 cars in October, according to reports to the Department of Agriculture. November inspections brought the total for the first two months of the current season to 60,123 cars compared with 56,535 cars for the same period last season. The nine-year (1941-49) average for the month of November was 15,165 cars.

The quality of the soybeans inspected in November was somewhat above last year and the average. Seventy-one percent graded No. 2 or better in November compared with 57 percent in November last year and 66 percent the nine-year average.

Inspections of soybeans in November included the equivalent of 2,316 cars inspected as cargo lots and 5,318 cars as truck receipts.

Inspected receipts of soybeans in December decreased seasonally to a total of 10,371 cars. Although these receipts were below previous months they were almost double those of Dec. 1949. December inspections brought the total for the first three months of the season to 70,499 cars compared with 62,213 cars for the same period in 1948. The 10-year (1940-49) average for December inspections was 5,787 cars.

The quality of the soybeans inspected in December was somewhat better than for the preceding month. Seventy-seven percent graded No. 2 or better compared with 71 percent in November and 68 percent in December 1949.

Inspections of soybeans in December included the equivalent of 488 cars inspected as cargo lots, about 284 cars as truck receipts.

Inspected receipts of soybeans in January were the largest of record for that month and over 36 percent above December. January inspections totaled 14,129 cars compared with 10,371 in December, 3,710 in January 1950 and 4,720 the 10-year average. Inspected receipts for October through January amounted to 84,628 cars compared with 65,923 for the same months last season.

The quality of the soybeans inspected in January was better than for the preceding month or a year ago. Eighty-four percent graded No. 2 or better compared with 77 percent in December, 79 percent in Jan. 1950 and 62 percent the 10-year (1940-49) January average.

Inspections of soybeans in January included the equivalent of 404 cars inspected as cargo lots and about 265 cars as truck receipts.

Inspected receipts of soybeans in February were only about half those of the previous month but were 60 percent above Feb. 1950. February inspections totaled 7,262 cars compared with 14,129 in January and 4,531 in February a year ago. Inspected receipts for October through February amounted to 91,890 cars compared with 70,454 for the same months last season.

The quality of the soybeans inspected in February was slightly below that of the preceding month or a year ago. Eighty-three percent graded No. 2 or better compared with 84 percent in January, 85 percent in February 1950, and 64 percent the 10-year (1940-49) February average.

Inspections of soybeans in February included the equivalent of 256 cars inspected as cargo lots and 70 cars as truck receipts.

APRIL, 1951

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● **PRODUCT UTILIZATION.** Utilization of soybean products for the 1949-50 crop year with comparisons. Compiled by the National Soybean Processors Association.

	CROP YEAR 1949-50	CROP YEAR 1948-49	CROP YEAR 1947-48
SOYBEAN OIL MEAL (tons)			
	%	%	%
Livestock feed	97.0	95.6	96.8
Industrial	2.5	3.1	2.0
Fertilizer	—	—	1.1
Export	.5	1.3	1.1
	100.0	100.0	100.0
SOYBEAN OIL (lbs.)			
	%	%	%
Edible	82.3	86.1	83.6
Industrial	17.7	13.9	16.4
	100.0	100.0	100.0
SOY FLOUR (lbs.)			
	%	%	%
Edible	69.7	73.8	95.9
Industrial	30.3	26.2	4.1
	100.0	100.0	100.0

● **MARGARINE PRODUCTION.** Total production of margarine in January was 112,813,000 lbs. compared with 89,165,000 lbs. in December, reports Bureau of the Census.

Production of colored margarine in January was 82,826,000 lbs., compared with 29,987,000 lbs. of the uncolored. This compares with 26,123,000 lbs. of the colored, and 58,114,000 lbs. of the uncolored in Jan. 1950.

Total 1950 production of margarine was 936,824,000 lbs. compared with 859,965,000 lbs. in 1949, and 908,042,000 lbs. in 1948.

Production of colored margarine in 1950 for the first time surpassed that of the uncolored, 499,705,000 lbs. compared with 437,119,000 lbs. In 1949 production of colored margarine was 177,213,000 lbs. of the uncolored 682,747,000 lbs.

● **PRICE SUPPORT.** The total bushelage of soybeans placed under price control through December was 13.5 million bushels, according to U. S. Department of Agriculture.

Of this amount 7,496,361 bushels were stored on the farm; 5,857,413 bushels were warehouse-stored; and 214,225 bushels were under purchase agreements.

Total bushelages of soybeans placed under controls through January was 14,426,299 bushels. Of this amount 8,197,744 bushels were farm-stored; 6,004,024 bushels were under warehouse loans; and 224,531 bushels were under purchase agreements.

● **STORAGE PROGRAM.** The Production and Marketing Administration, U. S. Department of Agriculture, announced the discontinuance, effective at the close of business, Feb. 28, of its program of government-guaranteed occupancy of newly constructed storage space. Construction of new grain storage space with a total of 78,019,091 bushels capacity has been effected under the program.

The action was based on two considerations: (1) An easing of the need for additional grain storage facilities; and (2) the fact that the Defense Production Act of 1950 provides for loans for expansion of productive capacity and the Internal Revenue Act of 1950 provides amortization for tax purposes over a 60-month period for certain qualified construction certified as necessary in the interest of National Defense.

● **SHORTENING SHIPMENTS.** Reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Week ending Mar. 3	3,471,983
Week ending Mar. 10	2,568,534
Week ending Mar. 17	2,489,267
Week ending Mar. 24	2,704,936

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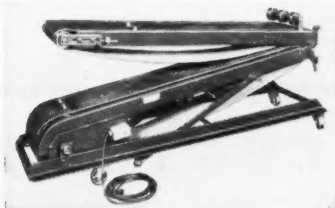
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LETTERS

Our Error on Blackhawk

TO THE EDITOR:

In March issue of the Soybean Digest there appears an article "Six Right Steps to Peak Production."

However, under paragraph one you refer to the map of recommended varieties as recommended by the agronomists at the U. S. Regional Soybean Laboratory. We are extremely disappointed in the fact that you have listed Blackhawk as one of the recommended varieties in Ohio. This recommendation according to your article carries the recommendation of the agronomists at the U. S. Regional Soybean Laboratory.

We have had numerous requests in regard to Blackhawk and have had to answer them all that we do not have it on the recommended list. In fact we have had a certain amount of pressure from some individuals to put it on the recommended list. However, all varieties before they are placed on our recommended list come up for careful discussion before our committee on crop variety release and distribution. Blackhawk has been up before this committee and has definitely not been placed on our recommended list.

As far as we are concerned we feel that it was very unfortunate that this came out in print in a publication that has as wide a distribution as the Soybean Digest has in Ohio. I thought it was only fair to call it to your attention.—*Lewis C. Saboe, associate agronomist, Ohio State University, Columbus 10, Ohio.*

Including Blackhawk on the map in Ohio was the Digest's error. We greatly regret it.—EDITOR.

Says Little B-12 in Meal

TO THE EDITOR:

In all fairness to the readers of your Digest I would like to mention several facts which will clarify some of the points presented by Dr. Albrecht on page 50 of your February issue.

Soybean meal is almost devoid of vitamin B-12 activity. For this reason it is used almost universally as the main protein ingredient in a ration when an assay of vitamin B-12 in feedstuffs is made. A report to the American Feed Manufacturers' Association by Dr. J. C. Fritz (Nov. 1950) representing the Soybean Research Council, National Soybean Processors Association, lists the vitamin B-12 content of soybean meal (expeller or solvent) as zero.

The effect of heating on the nutritional value of soybean meal has been studied for years. It has been well established that additional heating is required after oil extraction to insure a soybean meal of high nutritional value.

The possibility of destroying vitamin B-12 with the temperature used in processing the meal is very remote. Vitamin B-12 is extremely stable to heat. In fact, it is not even destroyed by autoclaving at 120 pounds steam pressure for 30 minutes.

The producer of soybeans and the feed manufacturer are anxious to utilize more soybean meal in the manufacture of quality feeds for reduced costs. Even though soybean meal is not an adequate source of vitamin B-12 for poultry feeds, today's concentrates will fortify a ton of feed for less than one dollar. "Chemical enrichment," as it has been called by Dr. Albrecht, will actually reduce the cost of mixing feeds by encouraging the use of higher levels of soybean meal in

poultry feeds.—*Alton L. Johnson, associate professor poultry department, Iowa State College, Ames, Iowa.*

THE PRESS

Opposes Dairy Attitude

A Klamath Falls creameryman said recently that the recent defeat of a bill in the state legislature which would have permitted the sale of colored oleomargarine has done "almost irreparable damage to the dairy industry," and declared many other creamerymen have the same opinion.

Percy Murray, operator of the Klamath Falls creamery, said he told a meeting of producers that he was "absolutely opposed to the present attitude of the dairy spokesmen at Salem." He said there was unanimous approval of his belief among the other 42 dairymen present.

Passage of the bill would not have made "a bit of difference to the dairy industry," he declared. "The present policy is extremely short-sighted and worst of all is giving the oleomargarine interests the kind of advertising the butter industry will be years living down."

Murray stated that dairymen in his area are "100 percent in favor of having the oleo bill passed," and objected to the policies of "those self-appointed leaders who have been fighting the oleo deal."

The bill would have passed easily if anyone other than Senator Richard Neuberger had introduced the bill, he said. "This has made the dairy industry a scapegoat for personal animosities."—*The Cheese Reporter.*

Every once in a while one of the buttermen says what he thinks instead of parroting the butter "line."—EDITOR.

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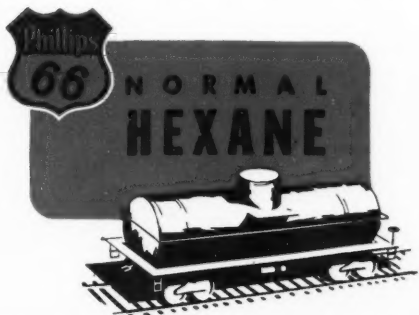
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In addition, this fine-quality, water-white solvent is notable for its extremely narrow boiling range, with a typical spread of 5°. No light ends . . . no heavy residue. Pure, too. Leaves no contaminating taste or odor in meal or oil.

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NEW ALBANY MILL,
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"The first 4 weeks I sold T. C. to 17 hog raisers, and only 2 of them had been buying hog feeds from me before. That's 15 new hog feed customers!"

MEADER PRODUCE,
Mitchellville, Iowa

"We sold 199 bags of T.C. in one week!"

SUNSHINE FEED STORE,
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"T.C. has brought in a large volume of business, plus many additional sales of other Wayne Feeds."

MARINE GRAIN & FEED CO.,
Marine, Illinois

"We picked up 15 new customers the first 6 weeks. This feed is the greatest help to the swine industry in years!"

A. B. HATCHERY,
Bloomington, Illinois

"The first 7 weeks, we sold 47 farmers, 23 of these were new customers. T.C. has done more to get new customers than anything we ever had!"

E. C. GRAFF,
Quincy, Illinois

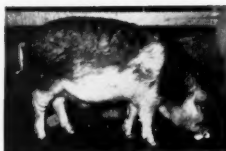
"Tail Curler radio advertising built big tonnage for us!"

SUNSHINE FEED STORE,
Mt. Vernon, Indiana

"T.C. helped us set all-time tonnage high in December. 677 bags moved first 7 weeks!"

PAT RYAN,
Shelbyville, Indiana

HELPS MAKE HOGS



OUT OF

RUNTS



TYPICAL EXAMPLE: On Nov. 14, 1950, Clifford Dorr, Dorr's Produce, Remsen, Ia., put the above 8½ month old pig, weighing 34 lbs., on Wayne T.C. 81 days later, the same pig weighed 225 lbs., gaining 2.36 lbs. per day!!!

"T.C. helped us sell 2½ times more Wayne Hog Feeds in Nov. & Dec. 1950 than in '49. Moved 258 bags first 4 weeks, 30 new customers!"

HERB WOLTER'S
HATCHERY,
Hoopeston, Ill.

"We got in 5 tons T. C., loaded up our route truck and called on every farmer. Results? Almost unbelievable! 53 using it in 3 weeks. First 7 weeks, 69 buyers. Doubled hog feed tonnage over same month last year. Have sold feed 20 years and T.C. is undoubtedly hottest item ever introduced by Allied Mills!"

GEORGE BRENNEMAN,
Wakarusa, Indiana

"First 5 weeks sold 350 bags. 20 new customers. Am not big dealer but intend to sell plenty of Tail Curler!"

PAUL ERICKSEN,
Alcester, S. D.

"Wayne radio advertising brings in many new customers ready to buy Tail Curler!"

OVERMAN-WATERS CO.,
Amboy, Indiana

"I sold my first T. C. to a man who was in real trouble with 56 sick pigs averaging about 100 lbs. HE NEVER LOST A PIG, came back for another half ton, and is now our best T. C. booster!"

PETTISVILLE GRAIN CO.,
Archbold, Ohio.

"We've sold more T.C. in a given time, than any feed we've ever sold!"

SHELBY FEED & SEED,
Shelby, Kentucky



Costs so little!
Does so much!

WAYNE
TAIL
CURLER



SOME DEALERSHIPS OPEN:

Allied Mills, Inc.,
Fort Wayne 1, Indiana Dept. SD-TC
Rush me the facts on Wayne Tail Curler, the "Super Feed That Sells Itself!"

Name _____

Address _____

Town _____

County _____

State _____